CONTENTS

Review Article

New strategy for discovery of enzyme inhibitors: Screening with intact mammalian cells or intact microorganisms having special functions.
HIROSHI TOMODA & SATOSHI ŌMURA .....(10): 1207~1222

NEW ANTIBIOTICS AND OTHER MICROBIAL PRODUCTS

Antibacterial Substances

Altromycins, novel pluramycin-like antibiotics.
I. Taxonomy of the producing organism, fermentation and antibacterial activity.
MARIANNA JACKSON, JAMES P. KARWOWSKI, ROBERT J. THERIAULT, DWIGHT J. HARDY, SUE J. SWANSON, GRANT J. BARLOW, PAULINE M. TILLIS & JAMES B. MCALPINE .....(3): 223~228
Altromycins, novel pluramycin-like antibiotics. II. Isolation and elucidation of structure.
GREGORY M. BRILL, JAMES B. MCALPINE, DAVID N. WHITTERN & ALEX M. BUKO .....(3): 229~237
Fosfadecin and fosfocytocin, new nucleotide antibiotics produced by bacteria.
NOZOMI KATAYAMA, SHIGETOSHI TSUBOTANI, YUKIMASA NOZAKI, SETSUO HARADA & HIDEO ONO .....(3): 238~246
Monazomycin B, a new macrolide antibiotic of the monazomycin family.
MING-S. T. KUO, DAVID A. YUREK, ALICE L. LABORDE, SCOTT E. TRUESDELL, JAMES W. NIELSEN, ALEXANDER D. ARGOUDELIS & LUBOMIR BACZYNSKYJ .....(4): 438~440
FR112123, a new oligopeptide antibiotic from *Streptomyces viridochromogenes*. Taxonomy, fermentation, isolation, physico-chemical properties, structure and biological activity.
AKIHIKO FUJIE, TOSHIRO IWAMOTO, NOBUHARU SHIGEMATSU, MASAMI EZAKI, MOTOHIRO HINO, SEIJI HASHIMOTO, MASAKUNI OKUHARA, MASANOBU KOHSAKA & HIROSHI IMANAKA .....(5): 449~455
MK4588, a new antibiotic related to xanthocillin.
JIRO ITOH, YASUO TAKEUCHI, SHUICHI GOMI, SHIGEHARU INOUYE, TAKASHI MIKAWA, NOBUJI YOSHIKAWA & HARUYUKI OHKISHI .....(5): 456~461
Citreamicins, novel antibiotics from *Micromonospora citrea*: Isolation, characterization, and structure determination.
GUY T. CARTER, JEANNE A. NIETSCHE, DAVID R. WILLIAMS & DONALD B. BORDERS .....(5): 504~512
A novel nucleoside antibiotic, 5-formyloxymethyluridine.
KUNIO ISSHIKI, TSUTOMU SAWA, HIROSHI NAGANAWA, SEIKO HATTORI, TAKAKO IKEDA, YOSHIKO HOMMA, MASA HAMADA & TOMIO TAKEUCHI .....(5): 584~585
A54145, a new lipopeptide antibiotic complex: Discovery, taxonomy, fermentation and HPLC.
L. D. BOECK, H. R. PAPISKA, R. W. WETZEL, J. S. MYNDERSE, D. S. FUKUDA, F. P. MERTZ & D. M. BERRY .....(6): 587~593
A54145, a new lipopeptide antibiotic complex: Isolation and characterization.
D. S. FUKUDA, R. H. DU BUS, P. J. BAKER, D. M. BERRY & J. S. MYNDERSE .....(6): 594~600
A80915, a new antibiotic complex produced by *Streptomyces aculeolatus*. Discovery, taxonomy, fermentation, isolation, characterization, and antibacterial evaluation.
D. S. FUKUDA, J. S. MYNDERSE, P. J. BAKER, D. M. BERRY, L. D. BOECK, R. C. YAO, F. P. MERTZ, W. M. NAKATSUKASA, J. MABE, J. OTT, F. T. COUNTER, P. W. ENSMINGER, N. E. ALLEN, W. E. ALBORN, Jr. & J. N. HOBBS, Jr. .....(6): 623~633
Isolation, characterization and structures of PA-46101 A and B.
MAKOTO MATSUMOTO, YOSHIMI KAWAMURA, YOHKO YOSHIMURA, YOSHIHIRO TERUI, HIROSHI NAKAI, TADASHI YOSHIDA & JUN'ICHI SHOJI .....(7): 739~747
Janthinocins A, B and C, novel peptide lactone antibiotics produced by *Janthinobacterium lividum*.
I. Taxonomy, fermentation, isolation, physico-chemical and biological characterization.
JOSEPH O'SULLIVAN, JOHN MCCULLOUGH, JANICE H. JOHNSON, DANIEL P. BONNER, JUNIUS C. CLARK, LORETTA DEAN & WILLIAM H. TREJO .....(8): 913~919

MM 47761 and MM 49721, glycopeptide antibiotics produced by a new strain of *Amycolatopsis orientalis*. Isolation, purification and structure determination.
STEPHEN J. BOX, ANNA L. ELSON, MARTIN L. GILPIN & DAVID J. WINSTANLEY .....(8): 931~987
New analogues of rosaramicin isolated from a *Micromonospora* strain. I. Taxonomy, fermentation, isolation and physico-chemical and biological properties.
KOHTAROU FUNAISHI, KENJI KAWAMURA, FUMIO SATOH, MUNEYO HIRAMATSU, MASAYUKI HAGIWARA & MASANORI OKANISHI .....(8): 938~947
Antibiotic SB22484: A novel complex of the aurodox group. I. Taxonomy of the producing organism, isolation of the antibiotics and chemical and biological characterization.
E. SELVA, G. BERETTA, R. PALLANZA, B. P. GOLDSTEIN, M. BERTI, D. M. F. EDWARDS & M. DENARO .....(11): 1349~1358

Antifungal and Antiviral Substances

FR109615, a new antifungal antibiotic from *Streptomyces setonii*. Taxonomy, fermentation, isolation, physico-chemical properties and biological activity.
TOSHIRO IWAMOTO, EISAKU TSUJII, MASAMI EZAKI, AKIHIKO FUJIE, SEIJI HASHIMOTO, MASAKUNI OKUHARA, MASANOBU KOHSAKA, HIROSHI IMANAKA, KOHJI KAWABATA, YOSHIKO INAMOTO & KAZUO SAKANE .....(1): 1~7
Isolation and structure of phosphazomycin C.
TETSUJI TOMIYA, MASAKAZU URAMOTO & KIYOSHI ISONO .....(1): 118~121
SF2487, a new polyether antibiotic produced by *Actinomadura*.
MASAHIRO HATSU, TORU SASAKI, SHINJI MIYADOH, HIRO-OMI WATABE, YASUO TAKEUCHI, YOSHIO KODAMA, YOSHINORI ORIKASA, KENZO KAJII, TAKASHI SHOMURA, HARUO YAMAMOTO, MASAJI SEZAKI, SHIGEHARU INOUYE & SHINICHI KONDO .....(3): 259~266
Pumilacidin, a complex of new antiviral antibiotics.
Production, isolation, chemical properties, structure and biological activity.
NOBUAKI NARUSE, OSAMU TENMYO, SEIKICHI KOBARU, HIDEO KAMEI, TAKEO MIYAKI, MASATAKA KONISHI & TOSHIKAZU OKI .....(3): 267~280
Secondary metabolites by chemical screening. II. Amycins A and B, two novel niphimycin analogs isolated from a high producer strain of elaiophylin and nigericin.
SUSANNE GRABLEY, PETER HAMMANN, WOLFGANG RAETHER, JOACHIM WINK & AXEL ZEECK .....(6): 639~647
Asperfuran, a novel antifungal metabolite from *Aspergillus oryzae*.
W. PFEFFERLE, H. ANKE, M. BROSS, B. STEFFAN, R. VIANDEN & W. STEGLICH .....(6): 648~654
Strobilurins F, G and H, three new antifungal metabolites from *Bolinea lutea*. I. Fermentation, isolation and biological activity.
ANDREAS FREDENHAGEN, ANTON KUHN, HEINRICH H. PETER, VINCENZO CUOMO & UGO GIULIANO .....(6): 655~660
A novel antifungal antibiotic, FR-900848. I. Production, isolation, physico-chemical and biological properties.
MASARU YOSHIDA, MASAMI EZAKI, MICHIZANE HASHIMOTO, MICHIO YAMASHITA, NOBUHARU SHIGEMATSU, MASAKUNI OKUHARA, MASANOBU KOHSAKA & KOKI HORIKOSHI .....(7): 748~754
Pradimicins A, B and C: New antifungal antibiotics. I. Taxonomy, production, isolation and physico-chemical properties.
KOJI TOMITA, MAKI NISHIO, KYOICHIRO SAITOH, HARUAKI YAMAMOTO, YUTAKA HOSHINO, HIROAKI OHKUMA, MASATAKA KONISHI, TAKEO MIYAKI & TOSHIKAZU OKI .....(7): 755~762
New antifungal antibiotics, pradimicins D and E. Glycine analogs of pradimicins A and C.
YOSUKE SAWADA, MAKI NISHIO, HARUAKI YAMAMOTO, MASAMI HATORI, TAKEO MIYAKI, MASATAKA KONISHI & TOSHIKAZU OKI .....(7): 771~777
Trichomycin B, a polyene macrolide from *Streptomyces*.
TADAAKI KOMORI .....(7): 778~782
Saramycetin, a thiazolyl peptide from a *Streptomyces* sp.: Chemical characterization and molecular wight determination.
R. COOPER, I. TRUUMEES, T. BARRETT, M. PATEL, J. SCHWARTZ, M. PUAR, P. DAS & B. PRAMANIK .....(7): 897~900

Trichomycin A, a heptaene macrolide: Isolation and characterization.
TADAAKI KOMORI & YUKIYOSHI MORIMOTO .....(7): 904~906
YS-822A, a new polyene macrolide antibiotic. I. Production, isolation, characterization and biological properties.
AKIRA ITOH, JUNKO IDO, YUKIMASA IWAMOTO, EIICHI GOSHIMA, TOYOHIKO MIKI, KATSUMI HASUDA & HIROSHI HIROTA .....(8): 948~955
Antibiotics from basidiomycetes. XXXIII. Oudemansin X, a new antifungal *E*-β-methoxyacrylate from *Oudemansiella radicata* (Relhan ex Fr.) Sing.
TIMM ANKE, ANDREAS WERLE, MONIKA BROSS & WOLFGANG STEGLICH .....(8): 1010~1011
A new group of antibiotics, hydroxamic acid antimycotic antibiotics. III. Isolation and characterization of enactin congeners.
KATSUMI YAMAMOTO, YOSHIKAZU SHIINOKI, MAKI NISHIO, YASUCHIKA MATSUDA, YOSHIO INOUYE & SHOSHIRO NAKAMURA .....(8): 1012~1017
Phthoxazolin, a specific inhibitor of cellulose biosynthesis, produced by a strain of *Streptomyces* sp.
SATOSHI ŌMURA, YOSHITAKE TANAKA, ISAO KANAYA, MAYUMI SHINOSE & YŌKO TAKAHASHI .....(8): 1034~1036
Validamycin H, a new pseudo-tetrasaccharide antibiotic.
NAOKI ASANO, YUKIHIKO KAMEDA, KATSUHIKO MATSUI, SATOSHI HORII & HIROSHI FUKASE .....(8): 1039~1041
FR900403, a new antifungal antibiotic produced by a *Kernia* sp.
TOSHIRO IWAMOTO, AKIHIKO FUJIE, YASUHISA TSURUMI, KUMIKO NITTA, SEIJI HASHIMOTO & MASAKUNI OKUHARA .....(9): 1183~1185
Neopyrrolomycin, a new chlorinated phenylpyrrole antibiotic.
TAKASHI NOGAMI, YASUHIRO SHIGIHARA, NAOKO MATSUDA, YOSHIKAZU TAKAHASHI, HIROSHI NAGANAWA, HIKARU NAKAMURA, MASA HAMADA, YASUHIKO MURAOKA, TOMOHISA TAKITA, YOICHI IITAKA & TOMIO TAKEUCHI .....(9): 1192~1194
New antifungal antibiotics pradimicins FA-1 and FA-2: D-Serine analogs of pradimicins A and C.
YOSUKE SAWADA, MASAMI HATORI, HARUAKI YAMAMOTO, MAKI NISHIO, TAKEO MIYAKI & TOSHIKAZU OKI .....(10): 1223~1229
Pradimicins M, N, O and P, new dihydrobenzo[*a*]naphthacenequinones produced by blocked mutants of *Actinomadura hibisca* P157-2.
YOSUKE SAWADA, TAKASHI TSUNO, HARUAKI YAMAMOTO, MAKI NISHIO, MASATAKA KONISHI & TOSHIKAZU OKI .....(11): 1367~1374
MM 46115, a new antiviral antibiotic from *Actinomadura pelletieri*. Characteristics of the producing cultures, fermentation, isolation, physico-chemical and biological properties.
RAYMOND J. ASHTON, MARTIN D. KENIG, KONG LUK, DONALD N. PLANTEROSE & GILLIAN SCOTT-WOOD .....(11): 1387~1393
Isolation and structure of a new phenoxazine antibiotic, exfoliazone, produced by *Streptomyces exfoliatus*.
SHINSUKE IMAI, AKIRA SHIMAZU, KEIKO FURIHATA, KAZUO FURIHATA, YOICHI HAYAKAWA & HARUO SETO .....(12): 1606~1607

Antitumor Substances

Eponemycin, a new antibiotic active against B16 melanoma. I. Production, isolation, structure and biological activity.
KOKO SUGAWARA, MASAMI HATORI, YUJI NISHIYAMA, KOJI TOMITA, HIDEO KAMEI, MASATAKA KONISHI & TOSHIKAZU OKI .....(1): 8~18
New biosynthetic anthracyclines related to barminomycins incorporating barbiturates in their moiety.
GIUSEPPE CASSINELLI, EMANUELE ARLANDINI, MARZIA BALLABIO, TERESA BORDONI, CRISTINA GERONI, FERDINANDO GIULIANI, ARPAD GREIN, SERGIO MERLI & GIOVANNI RIVOLA .....(1): 19~28
Two novel phenolics from *Actinomadura verrucosospora*.
JOHN A. BEUTLER, GWENDOLYN N. CHMURNY, PATRICK CLARK, CLIMACO J. METRAL, JOHN ROMAN & SALVATORE FORENZA .....(1): 107~109
Isolation and structures of mono- and di-deacetyl chromomycin antibiotics 02-3D and 02-3G from *Streptomyces avellaneus*.
TSUYOSHI KAWANO, TOMOMI HIDAKA, KAZUO FURIHATA, JUNICHIRO MOCHIZUKI,

Hiroshi Nakayama, Yoichi Hayakawa & Haruo Seto .....(1): 110~113
Resorthiomycin, a novel antitumor antibiotic. I. Taxonomy, isolation and biological activity.
Hideo Suzuki, Makoto Tahara, Masako Takahashi, Fumiko Matsumura, Takayoshi Okabe, Akira Shimazu, Aiko Hirata, Hiroshi Yamaki, Hideyo Yamaguchi, Nobuo Tanaka & Toshio Nishimura .....(2): 129~134
A new inhibitor of protein kinase C, RK-286C (4′-demethylamino-4′-hydroxystaurosporine).
I. Screening, taxonomy, fermentation and biological activity.
Hiroyuki Osada, Hidetoshi Takahashi, Kyoko Tsunoda, Hiroo Kusakabe & Kiyoshi Isono .....(2): 163~167
A new inhibitor of protein kinase C, RK-286C (4′-demethylamino-4′-hydroxystaurosporine).
II. Isolation, physico-chemical properties and structure.
Hidetoshi Takahashi, Hiroyuki Osada, Masakazu Uramoto & Kiyoshi Isono .....(2): 168~173
Antibiotics from basidiomycetes.
XXXII. Strobilurin E: A new cytostatic and antifungal (*E*)-β-methoxyacrylate antibiotic from *Crepidotus fulvotomentosus* Peck.
Wolfgang Weber, Timm Anke, Bert Steffan & Wolfgang Steglich .....(2): 207~212
Novel antibiotics, furaquinocins A and B.
Taxonomy, fermentation, isolation and physico-chemical and biological characteristics.
Kanki Komiyama, Shinji Funayama, Yumi Anraku, Masami Ishibashi, Yōko Takahashi & Satoshi Ōmura .....(3): 247~252
LL-D49194 antibiotics, a novel family of antitumor agents: Taxonomy, fermentation and biological properties.
W. M. Maiese, D. P. Labeda, J. Korshalla, N. Kuck, A. A. Fantini, M. J. Wildey, J. Thomas & M. Greenstein .....(3): 253~258
Placetins, platelet aggregation inhibitors from *Streptomyces* sp. Q-1043.
I. Fermentation, isolation and biological properties.
Teruaki Ozasa, Kenichi Suzuki, Toshimitsu Yamada, Kiyoshi Suzaki, Chieko Nohara, Masato Kobori & Takeshi Saito .....(4): 331~335
Isolation of cepafungins I, II and III from *Pseudomonas* species.
Jun'ichi Shoji, Hiroshi Hinoo, Toshiyuki Kato, Teruo Hattori, Keiichiro Hirooka, Katsuya Tawara, Osamu Shiratori & Yoshihiro Terui .....(7): 783~787
Quinaldopeptin, a novel antibiotic of the quinomycin family.
Soichiro Toda, Koko Sugawara, Yuji Nishiyama, Masaru Ohbayashi, Noriyuki Ohkusa, Haruaki Yamamoto, Masataka Konishi & Toshikazu Oki .....(7): 796~808
Himastatin, a new antitumor antibiotic from *Streptomyces hygroscopicus*. I. Taxonomy of producing organism, fermentation and biological activity.
Kin Sing Lam, Grace A. Hesler, Jacqueline M. Mattei, Stephen W. Mamber, Salvatore Forenza & Koji Tomita .....(8): 956~960
Himastatin, a new antitumor antibiotic from *Streptomyces hygroscopicus*. II. Isolation and characterization.
John E. Leet, Daniel R. Schroeder, Bala S. Krishnan & James A. Matson .....(8): 961~966
Chemical and biological properties of rubiginone, a complex of new antibiotics with vincristine-cytotoxicity potentiating activity.
Masahisa Oka, Hideo Kamei, Yasutaro Hamagishi, Koji Tomita, Takeo Miyaki, Masataka Konishi & Toshikazu Oki .....(8): 967~976
New antibiotic produced by *Micromonospora globosa*.
Kazuro Shiomi, Hironobu Iinuma, Hiroshi Naganawa, Masa Hamada, Seiko Hattori, Hikaru Nakamura, Tomio Takeuchi & Yoichi Iitaka .....(8): 1000~1005
Piperafizines A and B, potentiators of cytotoxicity of vincristine.
Hideo Kamei, Masahisa Oka, Yasutaro Hamagishi, Koji Tomita, Masataka Konishi & Toshikazu Oki .....(8): 1018~1020
Duocarmycin SA, a new antitumor antibiotic from *Streptomyces* sp.
Michio Ichimura, Tatsuhiro Ogawa, Kei-ichi Takahashi, Eiji Kobayashi, Isao Kawamoto, Tohru Yasuzawa, Isami Takahashi & Hirofumi Nakano .....(8): 1037~1038
Cytotoxic, antiviral indolocarbazoles from a blue-green alga belonging to the nostocaceae.
Georg Knübel, Linda K. Larsen, Richard E. Moore, Ira A. Levine & Gregory M. L. Patterson .....(10): 1236~1239

A new antibiotic, 13-hydroxyglucopiericidin A. Isolation, structure elucidation and biological characteristics.
HIROHARU MORI, SHINJI FUNAYAMA, YŌHEI SUDO, KANKI KOMIYAMA & SATOSHI ŌMURA .....(10): 1329~1331
A new piericidin rhamnoside, 3′-rhamnopiericidin A_1.
KEN-ICHI KIMURA, SHŌJI NAKAYAMA, NOBORU NAKAJIMA, MAKOTO YOSHIHAMA, NOBUO MIYATA & GOSEI KAWANISHI .....(10): 1341~1343
Saintopin, a new antitumor antibiotic with topoisomerase II dependent DNA cleavage activity, from *Paecilomyces*.
YOSHINORI YAMASHITA, YUTAKA SAITOH, KATSUHIKO ANDO, KEIICHI TAKAHASHI, HIROE OHNO & HIROFUMI NAKANO .....(10): 1344~1346
Cytogenin, a novel antitumor substance.
HIROYUKI KUMAGAI, TOHRU MASUDA, MICHIYO OHSONO, SEIKO HATTORI, HIROSHI NAGANAWA, TSUTOMU SAWA, MASA HAMADA, MASAAKI ISHIZUKA & TOMIO TAKEUCHI .....(11): 1505~1507
The kapurimycins, new antitumor antibiotics produced by *Streptomyces*. Producing organism, fermentation, isolation and biological activities.
MITSUNOBU HARA, TSUYOSHI MOKUDAI, EIJI KOBAYASHI, KATSUSHIGE GOMI & HIROFUMI NAKANO .....(12): 1513~1518
Isolation and structural elucidation of new cyclotetrapeptides, trapoxins A and B, having detransformation activities as antitumor agents.
HIROSHI ITAZAKI, KAZUO NAGASHIMA, KENJI SUGITA, HIROSHI YOSHIDA, YOSHIMI KAWAMURA, YUKIO YASUDA, KOICHI MATSUMOTO, KIKUO ISHII, NOBUO UOTANI, HIROSHI NAKAI, AKIHIRO TERUI, SHINYA YOSHIMATSU, YUJI IKENISHI, YUZO NAKAGAWA .....(12): 1524~1532

Anticoccidial, Antiparasitic and Insecticidal Substances

Kijimicin, a polyether antibiotic.
YOSHIKAZU TAKAHASHI, HIKARU NAKAMURA, RIE OGATA, NAOKO MATSUDA, MASA HAMADA, HIROSHI NAGANAWA, TOMOHISA TAKITA, YOICHI IITAKA, KIYOSHI SATO & TOMIO TAKEUCHI .....(4): 441~443
CP-84,657, a potent polyether anticoccidial related to portmicin and produced by *Actinomadura* sp.
JOHN P. DIRLAM, ANNETTE M. BELTON, JON BORDNER, WALTER P. CULLEN, LIANG H. HUANG, YASUHIRO KOJIMA, HIROSHI MAEDA, HIROYUKI NISHIDA, SATOSHI NISHIYAMA, JOHN R. OSCARSON, ANTHONY P. RICKETTS, TATSUO SAKAKIBARA, JUNSUKE TONE & KATSUHITSU TSUKUDA .....(6): 668~679
The structure of CP-80,219, a new polyether antibiotic related to dianemycin.
JOHN P. DIRLAM, LAURA PRESSEAU-LINABURY & DAVID A. KOSS .....(6): 727~730
Simaomicin (LL-D42067), a novel antibiotic from *Actinomadura madurae*. I. Taxonomy, fermentation and biological activity.
W. M. MAIESE, J. KORSHALLA, J. GOODMAN, M. J. TORREY, S. KANTOR, D. P. LABEDA & M. GREENSTEIN .....(9): 1059~1063
A novel series of milbemycin antibiotics from *Streptomyces* strain E225. II. Isolation, characterization, structure elucidation and solution conformations.
G. H. BAKER, R. J. J. DORGAN, J. R. EVERETT, J. D. HOOD & M. E. POULTON .....(9): 1069~1076
Novel antinematodal and antiparasitic agents from *Penicillium charlesii*. I. Fermentation, isolation and biological activity.
J. G. ONDEYKA, R. T. GOEGELMAN, J. M. SCHAEFFER, L. KELEMEN & L. ZITANO .....(11): 1375~1379

Enzyme Inhibitors and Biologically Active Substances

Studies on new dehydropeptidase inhibitors. I. Taxonomy, fermentation, isolation and physico-chemical properties.
SEIJI HASHIMOTO, HIDETSUGU MURAI, MASAMI EZAKI, NORIYUKI MORIKAWA, HIROSHI HATANAKA, MASAKUNI OKUHARA, MASANOBU KOHSAKA & HIROSHI IMANAKA .....(1): 29~37
Metabolic products of microorganisms. 255. Nikkomycins W_z and W_x, new chitin synthetase inhibitors from *Streptomyces tendae*.
HEINRICH DECKER, FRANZ WALZ, CHRISTIANE BORMANN, HANS ZÄHNER, HANS-PETER FIEDLER,

Holger Heitsch & Wilfried A. König .....(1): 43~48
Production, isolation and structure determination of a novel β-glucosidase inhibitor, cyclophellitol, from *Phellinus* sp.
Sonoko Atsumi, Kazuo Umezawa, Hironobu Iinuma, Hiroshi Naganawa, Hikaru Nakamura, Yoichi Iitaka & Tomio Takeuchi .....(1): 49~53
Probestin, a new inhibitor of aminopeptidase M, produced by *Streptomyces azureus* MH663-2F6.
I. Taxonomy, production, isolation, physico-chemical properties and biological activities.
Takaaki Aoyagi, Shigemi Yoshida, Yasushi Nakamura, Yasuhiro Shigihara, Masa Hamada & Tomio Takeuchi .....(2): 143~148
Topostin, a novel inhibitor of mammalian DNA topoisomerase I from *Flexibacter topostinus* sp. nov.
I. Taxonomy, and fermentation of producing strain.
Kenichi Suzuki, Hiroshi Yamaguchi, Sigeru Miyazaki, Kouji Nagai, Shun-ichi Watanabe, Takeshi Saito, Kazuyuki Ishii, Minoru Hanada, Takeshi Sekine, Yoji Ikegami & Toshiwo Andoh .....(2): 154~157
Topostin, a novel inhibitor of mammalian DNA topoisomerase I from *Flexibacter topostinus* sp. nov.
II. Purification and some properties of topostin.
Yoji Ikegami, Noriaki Takeuchi, Minoru Hanada, Yoko Hasegawa, Kazuyuki Ishii, Toshiwo Andoh, Tsutomu Sato, Kenichi Suzuki, Hiroshi Yamaguchi, Shigeru Miyazaki, Kouji Nagai, Shun-ichi Watanabe & Takeshi Saito .....(2): 158~162
Isolation and structural elucidation of an antioxidative agent, naphterpin.
Kazuo Shin-ya, Shinsuke Imai, Kazuo Furihata, Yoichi Hayakawa, Yoko Kato, Gregory D. Vanduyne, Jon Clardy & Haruo Seto .....(4): 444~447
Studies on inhibitors of rat mast cell degranulation produced by microorganisms. I. Screening of microorganisms, and isolation and physico-chemical properties of eurocidins C, D and E.
Kazuya Nakagomi, Makoto Takeuchi, Hideoki Tanaka, Noboru Tomizuka & Terumi Nakajima .....(5): 462~469
Aladapcin, a new microbial metabolite that enhances host resistance against bacterial infection. Production, isolation, physico-chemical properties and biological activities.
Akio Shiraishi, Mutsuo Nakajima, Toshiaki Katayama, Tomoko Matsuda, Takako Niwa, Takao Okazaki, Yasuyuki Takamatsu, Hidemi Nagaki, Takeshi Kinoshita, Toshio Takatsu & Tatsuo Haneishi .....(6): 634~638
Depsidomycin, a new immunomodulating antibiotic.
Kunio Isshiki, Tsutomu Sawa, Hiroshi Naganawa, Yumi Koizumi, Naoko Matsuda, Masa Hamada, Tomio Takeuchi, Masatomi Iijima, Michiyo Osono, Toru Masuda & Masaaki Ishizuka .....(9): 1195~1198
Mycenon, a new metabolite from *Mycena* species TA 87202 (basidiomycetes) as an inhibitor of isocitrate lyase.
R. Hautzel, H. Anke & W. S. Sheldrick .....(10): 1240~1244
Isolation and structural elucidation of antioxidative agents, antiostatins A_1 to A_4 and B_2 to B_5.
Cheng-Jun Mo, Kazuo Shin-ya, Kazuo Furihata, Keiko Furihata, Akira Shimazu, Yoichi Hayakawa & Haruo Seto .....(10): 1337~1340
WS-7528, a new isoflavanone with estrogen activity isolated from *Streptomyces* sp. No. 7528. Taxonomy, fermentation, isolation, physico-chemical properties and biological activities.
Osamu Nakayama, Masashi Yagi, Miho Tanaka, Sumio Kiyoto, Itsuo Uchida, Masashi Hashimoto, Masakuni Okuhara & Masanobu Kohsaka .....(11): 1394~1402
Duramycins B and C, two new lanthionine containing antibiotics as inhibitors of phospholipase A_2. Structural revision of duramycin and cinnamycin.
Andreas Fredenhagen, Gabriele Fendrich, Fritz Märki, Walter Märki, Johannes Gruner, Fritz Raschdore & Heinrich H. Peter .....(11): 1403~1412
Antibiotics from basidiomycetes. XXXVII. New inhibitors of cholesterol biosynthesis from cultures of *Xerula melanotricha* Dörfelt.
Dorothée Kuhnt, Timm Anke, Helmut Besl, Monika Bross, Rupert Herrmann, Ursula Mocek, Bert Steffan & Wolfgang Steglich .....(11): 1413~1420
BE-14348 substances, new specific estrogen-receptor binding iohibitors. Production, isolation, structure determination and biological properties.
Hisao Kondo, Shigeru Nakajima, Naoko Yamamoto, Akira Okura, Fumio Satoh, Hiroyuki Suda, Masanori Okanishi & Nobuo Tanaka .....(12): 1533~1542

SCREENING, TAXONOMY AND PRODUCTION

A screening method for antifungal substances using *Saccharomyces cerevisiae* strains resistant o polyene macrolides.
GILLES ETIENNE, ELISE ARMAU & GÉRARD TIRABY .....(2): 199~206
Secondary metabolites by chemical screening. 7. I. Elaiophylin derivatives and their biological activities.
PETER HAMMANN, GERHARD KRETZSCHMAR & GERHARD SEIBERT .....(11): 1431~1440
Screening of antibiotics preferentially active against *ras* oncogene-expressed cells.
KAYOKO SUZUKAKE-TSUCHIYA, YUKARI MORIYA, KATSUHISA YAMAZAKI, MAKOTO HORI, NOBUO HOSOKAWA, TSUTOMU SAWA, HIRONOBU IINUMA, HIROSHI NAGANAWA, CHIAKI IMADA & MASA HAMADA .....(11): 1489~1496
Use of resins for trichothecene production in liquid cultures.
BRUCE B. JARVIS, CATHERINE A. ARMSTRONG & MING ZENG .....(11): 1502~1504
A new screening method for melanin biosynthesis inhibitors using *Streptomyces bikiniensis*.
KOJI TOMITA, NAHOMI ODA, MASARU OHBAYASHI, HIDEO KAMEI, TAKEO MIYAKI & TOSHIKAZU OKI .....(12): 1601~1605

GENETICS

Molecular cloning and characterization of the gene conferring curromycin resistance on a curromycin non-producing mutant derived from *Streptomyces hygroscopicus* 358AV2.
MITSUO OGURA, TERUO TANAKA, HARUO SETO & NOBORU ŌTAKE .....(7): 873~882
Cloning of midecamycin(MLS)-resistance genes from *Streptomyces mycarofaciens*, *Streptomyces lividans* and *Streptomyces coelicolor* A3(2).
OSAMU HARA & C. RICHARD HUTCHINSON .....(8): 977~991
Cloning and characterization of the sisomicin-resistance gene from *Micromonospora inyoensis*.
STEVEN L. GOLDBERG, JORGE G. ROMERO & YASHWANT M. DEO .....(8): 992~999
Transposition of Tn*4560* in *Streptomyces avermitilis*.
YOSHIHIKO YAGI .....(9): 1204~1205
Cloning from *Streptomyces cellulosae* of the gene encoding β-lactamase, a blue-dextran binding protein.
HIROAKI URABE, KEITARO TOYAMA & HIROSHI OGAWARA .....(11): 1483~1488

BIOSYNTHESIS AND MICROBIAL TRANSFORMATION

Site of regulation of nanaomycin biosynthesis by inorganic phosphate.
ROKURŌ MASUMA, DE-ZHONG ZHEN, YOSHITAKE TANAKA & SATOSHI ŌMURA .....(1): 83~87
Ribonucleases catalyze the synthesis of B-factor (3′-butylphosphoryl AMP), an inducer of rifamycin production in a *Nocardia* sp.
MASAYUKI AZUMA, KAZUNORI NISHI, SUEHARU HORINOUCHI & TERUHIKO BEPPU .....(3): 321~323
Study to the biosynthesis of the rifamycin-chromophore in *Nocardia mediterranei*.
DANIEL GYGAX, ORESTE GHISALBA, HANSJÖRG TREICHLER & JAKOB NÜESCH .....(3): 324~326
Biosynthesis of kalafungin in *Streptomyces tanashiensis*.
SHIZUKO KAKINUMA, HARUO IKEDA, SATOSHI ŌMURA & DAVID A. HOPWOOD .....(4): 391~396
Method of search for microbial inhibitors of mevalonate biosynthesis using animal cells.
HIDETOSHI KUMAGAI, HIROSHI TOMODA & SATOSHI ŌMURA .....(4): 397~402
A54145, a new lipopeptide antibiotic complex: Microbial and chemical modification.
D. S. FUKUDA, M. DEBONO, R. M. MOLLOY & J. S. MYNDERSE .....(6): 601~606
A54145, a new lipopeptide antibiotic complex: Factor control through precursor directed biosynthesis.
L. D. BOECK & R. W. WETZEL .....(6): 607~615
V. Biosynthesis of benzylpenicillin (G), phenoxymethylpenicillin (V) and octanoylpenicillin (K) from glutathione *S*-derivatives.
MIGUEL A. FERRERO, ANGEL REGLERO, JAVIER MARTÍN-VILLACORTA, JOSÉ M. FERNÁNDEZ-CAÑÓN & JOSÉ M. LUENGO .....(6): 684~691
Purification and characterization of virginiae butanolide C-binding protein, a possible pleiotropic signal-transducer in *Streptomyces virginiae*.
HYUN SOO KIM, HIDEAKI TADA, TAKUYA NIHIRA & YASUHIRO YAMADA .....(6): 692~706
Isolation of (4*R*)-4-[(*E*)-2-butenyl]-4-methyl-L-threonine, the characteristic structural element of

cyclosporins, from a blocked mutant of *Tolypocladium inflatum*.
JEAN-JACQUES SANGLIER, RENÉ TRABER, ROBERT HELMUT BUCK, HANS HOFMANN & HANS KOBEL .....(6): 707~714
Biogenesis of chromomycin A_3 by *Streptomyces griseus*.
ANTONIO MONTANARI & JOHN P. N. ROSAZZA .....(7): 883~889
Biosynthetic studies on oleandomycin by incorporation of the chemically synthesized aglycones.
KUNIAKI TATSUTA, HIROKI GUNJI, SHUICHI TAJIMA, TAKASHI ISHIYAMA, SATOSHI IMAI, SATOSHI OKUYAMA & SHUNZO FUKATSU .....(7): 909~911
Formation of dihydroxy derivative of ML-236B from ML-236B (compactin) by lipid peroxidation.
NOBUFUSA SERIZAWA, KAORI NAKAHARA & TATSUJI MATSUOKA .....(8): 1031~1033
Isolation and partial characterisation of ACV synthetase from *Cephalosporium acremonium* and *Streptomyces clavuligerus*.
JACK E. BALDWIN, JULIETTE W. BIRD, ROBERT A. FIELD, NIAMH M. O'CALLAGHAN & CHRISTOPHER J. SCHOFIELD .....(8): 1055~1057
Bioconversion of monensin by a soil bacterium, *Sebekia benihana*.
F. VAUFREY, A. M. DELORT, G. JEMINET & G. DAUPHIN .....(9): 1189~1191
Nitrilase-catalyzed production of pyrazinoic acid, an antimycobacterial agent, from cyanopyrazine by resting cells of *Rhodococcus rhodochrous* J1.
MICHIHIKO KOBAYASHI, NORIYUKI YANAKA, TORU NAGASAWA & HIDEAKI YAMADA ..(10): 1316~1320
Microbiai conversion of milbemycins: 30-Oxidation of milbemycin A_4 and related compounds by *Amycolata autotrophica* and *Amycolatopsis mediterranei*.
KEIKO NAKAGAWA, AKIO TORIKATA, KAZUO SATO & YOSHIHISA TSUKAMOTO .....(10): 1321~1328
Novel macrolides from *Micromonospora rosaria*.
MOHINDAR S. PUAR & DORIS SCHUMACHER .....(11): 1497~1501
Biosynthesis of mycinamicins by a blocked mutant of *Micromonospora griseorubida*.
HIDEAKI SUZUKI, SATOSHI TAKENAKA, KENJI KINOSHITA & TOSHIRO MOROHOSHI .....(11): 1508~1511
Aliphatic molecules (C-6 to C-8) containing double or triple bonds as potential penicillin side-chain precursors.
JAVIER MARTÍN-VILLACORTA, ANGEL REGLERO, MIGUEL A. FERRERO & JOSÉ M. LUENGO .....(12): 1559~1563
Isolation and biosynthesis of 3α-hydroxy-3,5-dihydromonacolin L.
TEIICHI NAKAMURA, DAISUKE KOMAGATA, SHIGEO MURAKAWA, KAORU SAKAI & AKIRA ENDO .....(12): 1597~1600
Biosynthesis of monacolins: Conversion of monacolin J to monacolin K (mevinolin).
KEISUKE KIMURA, DAISUKE KOMAGATA, SHIGEO MURAKAWA & AKIRA ENDO .....(12): 1621~1622
Biosynthesis of carbazomycin B. II. Origin of the whole carbon skeleton.
MIYUKI KANEDA, TOSHIHARU KITAHARA, KAZUO YAMASAKI & SHOSHIRO NAKAMURA .....(12): 1623~1626

ANTIBIOTIC ACTIVITY, ACTION MECHANISM AND RESISTANCE

Antibacterial and Antifungal Activity

Resistance of *Escherichia coli* to rifampicin and sorangicin A — a comparison.
GÜNTER RÖMMELE, GABRIELA WIRZ, RENATE SOLF, KLAUS VOSBECK, JOHANNES GRUNER & WALTER WEHRLI .....(1): 88~91
Antibacterial properties of the bicyclic pyrazolidinones.
N. E. ALLEN, J. N. HOBBS, Jr., D. A. PRESTON, J. R. TURNER & C. Y. E. WU .....(1): 92~99
Comparative chemotherapeutic activity of cefpirome and imipenem in experimental infections.
N. KLESEL, D. ISERT, M. LIMBERT, A. MARKUS, G. SEIBERT & E. SCHRINNER .....(1): 100~106
Chemical modification of erythromycins. III. *In vitro* and *in vivo* antibacterial activities of new semisynthetic 6-*O*-methylerythromycins A, TE-031 (clarithromycin) and TE-032.
SHIGEO MORIMOTO, TAKATOSHI NAGATE, KAZUHIKO SUGITA, TAKEO ONO, KAZUO NUMATA, JUNKO MIYACHI, YOKO MISAWA, KENJI YAMADA & SADAFUMI OMURA .....(3): 295~305
Comparison of two carbapenems, SM-7338 and imipenem: Affinities for penicillin-binding proteins and morphological changes.
YOSHIHIRO SUMITA, MASATOMO FUKASAWA & TAKAO OKUDA .....(3): 314~320

Characteristics of aztreonam as a substrate, inhibitor and inducer for β-lactamases.
Yuko Sakurai, Yukie Yoshida, Keiko Saitoh, Mayumi Nemoto, Akihito Yamaguchi & Tetsuo Sawai .....(4): 403~410
The mode of antifungal action of (*S*)2-amino-4-oxo-5-hydroxypentanoic acid, RI-331.
Maki Yamaguchi, Hiroshi Yamaki, Takako Shinoda, Yoshitaka Tago, Hideo Suzuki, Toshio Nishimura & Hideyo Yamaguchi .....(4): 411~416
Cilofungin inhibition of (1-3)-β-glucan synthase: The lipophilic side chain is essential for inhibition of enzyme activity.
Cathy S. Taft & Claude P. Selitrennikoff .....(4): 433~437
MM 45289, a potent glycopeptide antibiotic which interacts weakly with diacetyl-L-lysyl-D-alanyl-D-alanine.
Valerie M. Good, Michael N. Gwynn & David J. C. Knowles .....(5): 550~555
A54145, a new lipopeptide antibiotic complex: Microbiological evaluation.
F. T. Counter, N. E. Allen, D. S. Fukuda, J. N. Hobbs, J. Ott, P. W. Ensminger, J. S. Mynderse, D. A. Preston & C. Y. E. Wu .....(6): 616~622
Ebelactones inhibit cutinases produced by fungal plant pathogens.
Wolfram Köller, Frances Trail & Diana M. Parker .....(6): 734~735
Pradimicins A, B and C: New antifungal antibiotics. II. *In vitro* and *in vivo* biological activities.
Toshikazu Oki, Osamu Tenmyo, Minoru Hirano, Kozo Tomatsu & Hideo Kamei ...(7): 763~770
Effect of stereochemistry at the C-17 position on the antifungal activity of pradimicin A.
Masatoshi Kakushima, Maki Nishio, Kei-ichi Numata, Masataka Konishi & Toshikazu Oki .....(8): 1028~1030
Mechanism of action of atpenin B on raji cells.
Kazushi Oshino, Hidetoshi Kumagai, Hiroshi Tomoda & Satoshi Ōmura .....(9): 1064~1068
R-Plasmid mediated transfer of β-lactam resistance in *Bacteroides fragilis*.
Kazukiyo Yamaoka, Kunitomo Watanabe, Yoshinori Muto, Naoki Katoh, Kazue Ueno & Francis P. Tally .....(10): 1302~1306
Comparison of transport pathways of catechol-substituted cephalosporins, BO-1236 and BO-1341, through the outer membrane of *Escherichia coli*.
Terutaka Hashizume, Minoru Sanada, Susumu Nakagawa & Nobuo Tanaka .....(12): 1617~1620

Antiviral Activity

Inhibition of HIV replication by 19-*O*-*n*-pentyldamavaricin Fc *in vitro*.
Shin-ichi Ito, Gustav Gilliams, Britta Wahren, Hans Wigzell, Naoki Yamamoto, Kazuya Sasaki & Kazukiyo Onodera .....(8): 1045~1046

Antitumor Activity

Resorthiomycin, a novel antitumor antibiotic.
III. Potentiation of antitumor drugs and its mechanism of action.
Makoto Tahara, Akihiro Tomida, Toshio Nishimura, Hideyo Yamaguchi & Hideo Suzuki .....(2): 138~142
Mechanism of action of a new macromolecular antitumor antibiotic, C-1027.
Yoshikazu Sugimoto, Toshio Otani, Shinji Oie, Konstanty Wierzba & Yuji Yamada .....(4): 417~421
Biological activities of new anthracyclines containing fluorine, FAD104 and its metabolites.
Setsuko Kunimoto, Keiko Komuro, Chisato Nosaka, Tsutomu Tsuchiya, Shunzo Fukatsu & Tomio Takeuchi .....(5): 556~565
Calcium-dependent anticandidal action of pradimicin A.
Yosuke Sawada, Kei-ichi Numata, Tsutomu Murakami, Harumi Tanimichi, Satoshi Yamamoto & Toshikazu Oki .....(6): 715~721
Comparative studies on resistance to anthracycline derivatives between doxorubicin-resistant mouse lymphoblastoma L5178Y cells and mouse leukemia P388 cells.
Yoshio Inouye, Keiko Oogose & Shoshiro Nakamura .....(8): 1021~1027
Estimation of neocarzinostatin activitiy in conjugates with monoclonal antibodies.
Uwe Gottschalk, Axel Maibücher, Henning Menke & Wolfgang Köhnlein ....(8): 1051~1054

Structural specificity for biological activity of trichostatin A, a specific inhibitor of mammalian cell cycle with potent differentiation-inducing activity in friend leukemia cells.
MINORU YOSHIDA, YUTAKA HOSHIKAWA, KOSHI KOSEKI, KENJI MORI & TERUHIKO BEPPU .....(9): 1101~1106
Structure-activity relationships of elloramycin and tetracenomycin C.
JÜRGEN ROHR & AXEL ZEECK .....(9): 1169~1178
Evaluation of the electrophilicity of DNA-binding pyrrolo[2,1-c][1,4]benzodiazepines by HPLC.
STEPHEN J. MORRIS, DAVID E. THURSTON & THOMAS G. NEVELL .....(10): 1286~1292
Footprinting studies of the interaction of quinomycin antibiotic UK63052 with DNA: Comparison with echinomycin.
KEITH R. FOX .....(10): 1307~1315

Antiparastic Activity

Cochlioquinone A, a nematocidal agent which competes for specific [^{3}H]ivermectin binding sites.
JAMES M. SCHAEFFER, EASTER G. FRAZIER, ALAN R. BERGSTROM, JOANNE M. WILLIAMSON, JERROLD M. LIESCH & MICHAEL A. GOETZ .....(9): 1179~1182

Enzyme Inhibition and Other Biological Activities

Trehalase inhibitors, validoxylamine A and related compounds as insecticides.
NAOKI ASANO, MASAYOSHI TAKEUCHI, YUKIHIKO KAMEDA, KATSUHIKO MATSUI & YOSHIAKI KONO .....(6): 722~726
Identification of the inhibitory activity of carbazomycins B and C against 5-lipoxygenase, a new activity for these compounds.
DEREK J. HOOK, JOSEPH J. YACOBUCCI, SEAN O'CONNOR, MIKE LEE, ED KERNS, BALA KRISHNAN, JIM MATSON & GRACE HESLER .....(10): 1347~1348
Biological activities of cyclophellitol.
SONOKO ATSUMI, HIRONOBU IINUMA, CHISATO NOSAKA & KAZUO UMEZAWA .....(12): 1579~1585
Inhibition of phosphatidylinositol kinase by toyocamycin.
HIROSHI NISHIOKA, TSUTOMU SAWA, MASA HAMADA, NAOMI SHIMURA, MASAYA IMOTO & KAZUO UMEZAWA .....(12): 1586~1589
Riboflavin, a testosterone 5α-reductase inhibitor.
OSAMU NAKAYAMA, MASASHI YAGI, SUMIO KIYOTO, MASAKUNI OKUHARA & MASANOBU KOHSAKA .....(12): 1615~1616

Immunological Activity

Deoxyspergualin directly suppresses antibody formation *in vivo* and *in vitro*.
HIDEJI FUJII, TERUYO TAKADA, KYUICHI NEMOTO, TAKUMI YAMASHITA, FUMINORI ABE, AKIO FUJII & TOMIO TAKEUCHI .....(2): 213~219
Selective immunosuppression of prodigiosin 25-C and FK506 in the murine immune system.
RYOHEI F. TSUJI, MASAKUNI YAMAMOTO, AKITO NAKAMURA, TAKAO KATAOKA, JUNJI MAGAE, KAZUO NAGAI & MAKARI YAMASAKI .....(10): 1293~1301

PHARMACOLOGY AND TOXICOLOGY

Studies on new dehydropeptidase inhibitors. III. Biological properties of WS1358A1.
SEIJI HASHIMOTO, HIDETSUGU MURAI, KUMIKO NITTA, AKIHIKO FUJIE, MASAKUNI OKUHARA, MASANOBU KOHSAKA & HIROSHI IMANAKA .....(3): 281~285
Absorption, tissue distribution and excretion of 19-deformyldesmycosin derivatives, new 16-membered macrolides, in mice.
TATSURO FUJIWARA, ATSUSHI SAKAI & HIDEO SAKAKIBARA .....(3): 327~330
Pharmacokinetic studies in animals of a new parenteral penem CP-65,207 and its oral prodrug ester.
THOMAS GOOTZ, DENNIS GIRARD, WILLIAM SCHELKLEY, THOMAS TENSFELDT, GEORGE FOULDS, MICHAEL KELLOGG, JOHN STAM, BENEDICT CAMPBELL, JOHN JASYS, PAUL KELBAUGH, ROBERT VOLKMANN & ERNEST HAMANAKA .....(4): 422~432

Microbiological and pharmacokinetic studies of acyl demycinosyltylosin and related tylosin derivatives.
A. F. Cacciapuoti, D. Loebenberg, E. L. Moss, Jr., F. W. Menzel, Jr., J. A. Rudeen, L. R. Naples, C. L. Cramer, R. S. Hare, A. K. Mallams & G. H. Miller .....(9): 1131~1136
Studies on WF-3681, a novel aldose reductase inhibitor. III. Effects of WF-3681 and its derivatives on sorbitol accumulation in diabetic rats.
Motoaki Nishikawa, Keizo Yoshida, Masanori Okamoto & Masanobu Kohsaka .....(9): 1186~1188
Antiviral effect of oxetanocin G against guinea pig cytomegalovirus infection *in vitro* and *in vivo*.
Naohiko Yamamoto, Yoshinari Yamada, Tohru Daikoku, Yukihiro Nishiyama, Yoshihiro Tsutsui, Nobuyoshi Shimada & Katsutoshi Takahashi .....(12): 1573~1578
Deoxyspergualin therapy in autoimmune MRL/lpr mice suffering advanced lupus-like disease.
Kyuichi Nemoto, Takako Mae, Yumi Sugawara, Michiko Hayashi, Fuminori Abe & Tomio Takeuchi .....(12): 1590~1596

CHEMISTRY

Chemical Properties

Separation of actinomycins and biosynthetic analogues by normal and reversed-phase high performance liquid chromatography.
A. B. Mauger & O. A. Stuart .....(2): 220~221
Intermolecular stacking of gilvocarcin V tetraacetate as evidenced by nuclear magnetic resonance studies.
Tadashi Eguchi, Hui-Yin Li, Jun-ichi Kazami, Katsumi Kakinuma & Noboru Ōtake .....(9): 1077~1081
NMR and fluorometric characterization of mithramycin in aqueous solution.
N. Rama Krishna, Donald M. Miller & Ted T. Sakai .....(12): 1543~1552

Structure Determination

Studies on new dehydropeptidase inhibitors. II. Structural elucidation and synthesis of WS1358A1 and B1.
Shigehiro Takase, Itsuo Uchida, Seiji Hashimoto, Hirokazu Tanaka & Masashi Hashimoto .....(1): 38~42
The absolute configuration of decilonitrose, a sugar component of decilorubicin, is undoubtedly 2,3,6-trideoxy-3-*C*-methyl-3-nitro-L-*ribo*-hexopyranose.
Yoshio Nishimura, Kiyoto Ishii & Shinichi Kondo .....(1): 54~61
Resorthiomycin, a novel antitumor antibiotic. II. Physico-chemical properties and structure elucidation.
Makoto Tahara, Takayoshi Okabe, Kazuo Furihata, Nobuto Tanaka, Hideyo Yamaguchi, Toshio Nishimura & Hideo Suzuki .....(2): 135~137
Probestin, a new inhibitor of aminopeptidase M, produced by *Streptomyces azureus* MH663-2F6. II. Structure determination of probestin.
Shigemi Yoshida, Yasushi Nakamura, Hiroshi Naganawa, Takaaki Aoyagi & Tomio Takeuchi .....(2): 149~153
Structures of KS-501 and KS-502, the new inhibitors of Ca^{2+} and calmodulin-dependent cyclic nucleotide phosphodiesterase.
Tohru Yasuzawa, Yutaka Saitoh & Hiroshi Sano .....(4): 336~343
Studies on inhibitors of rat mast cell degranulation produced by microorganisms. II. Structure elucidation of eurocidins D and E.
Kazuya Nakagomi, Shinichi Sakai, Hideoki Tanaka, Noboru Tomizuka, Yoshiyuki Kawakami & Terumi Nakajima .....(5): 470~476
Structural studies on new depsipeptide antibiotics, variapeptin and citropeptin.
Masaya Nakagawa, Yoichi Hayakawa, Kazuo Furihata & Haruo Seto .....(5): 477~484
Structures of the novel anthraquinone antitumor antibiotics, DC92-B and DC92-D.
Tohru Yasuzawa, Yutaka Saitoh & Hiroshi Sano .....(5): 485~491
Landomycins, new angucycline antibiotics from *Streptomyces* sp. I. Structural studies on landomycins A~D.
Thomas Henkel, Jürgen Rohr, John M. Beale & Ludger Schwenen .....(5): 492~503
Strobilurins F, G and H, three new antifungal metabolites from *Bolinea lutea*. II. Structure determination.

Andreas Fredenhagen, Paul Hug & Heinrich H. Peter .....(6): 661~667
Structures of cepafungins I, II and III.
Yoshihiro Terui, Junko Nishikawa, Hiroshi Hinoo, Toshiyuki Kato & Jun'ichi Shoji
..... (7): 788~795
The structure of tautomycin, a dialkylmaleic anhydride antibiotic.
Xing-Chun Cheng, Makoto Ubukata & Kiyoshi Isono .....(7): 809~819
The structure of tautomycetin, a dialkylmaleic anhydride antibiotic.
Xing-Chun Cheng, Makoto Ubukata & Kiyoshi Isono .....(7): 890~896
Structures of the alkaline hydrolysis products of penem antibiotic, SUN5555.
Hiromitsu Iwata, Rie Tanaka & Masaji Ishiguro .....(7): 901~903
Janthinocins A, B and C, novel peptide lactone antibiotics produced by *Janthinobacterium lividum*.
II. Structure elucidation.
Janice H. Johnson, Adrienne A. Tymiak & Mark S. Bolgar .....(8): 920~930
New analogs of rosaramicin isolated from a *Micromonospora* strain. II. Structure determination.
Shigeru Nakajima, Katsuhisa Kojiri, Hajime Morishima & Masanori Okanishi ...(8): 1006~1009
Sequence determination of actagardine, a novel lantibiotic, by homonuclear 2D NMR spectroscopy.
Jürgen K. Kettenring, Adriano Malabarba, Károly Vékey & Bruno Cavalleri
..... (9): 1082~1088
Structures of agglomerins.
Yoshihiro Terui, Ryuji Sakazaki & Jun'ichi Shoji .....(10): 1245~1253
Antibiotic SB22484: A novel complex of the aurodox group. II. Structure elucidation of the four factors.
Pietro Ferrari, Duncan Edwards, Gian Gualberto Gallo & Enrico Selva ....(11): 1359~1366
Novel antinematodal and antiparasitic agents from *Penicillium charlesii*. II. Structure determination of paraherquamides B, C, D, E, F, and G.
J. M. Liesch & C. F. Wichmann .....(11): 1380~1386
The structure of PA48009: The revised structure of duramycin.
Fumiaki Hayashi, Kazuo Nagashima, Yoshihiro Terui, Yoshimi Kawamura,
Koichi Matsumoto & Hiroshi Itazaki .....(11): 1421~1430
The kapurimycins, new antitumor antibiotics produced by *Streptomyces*. Physico-chemical properties and structure determination.
Mayumi Yoshida, Mitsunobu Hara, Yutaka Saitoh & Hiroshi Sano .....(12): 1519~1523
The structures of atpenins A4, A5 and B, new antifungal antibiotics produced by *Penicillium* sp.
Hidetoshi Kumagai, Hiroyuki Nishida, Nobutaka Imamura, Hiroshi Tomoda,
Satoshi Ōmura & Jon Bordner .....(12): 1553~1558

Synthesis and Derivatives

(β-Lactam Antibiotics)

A new aminothiazolylcephalosporin having 1-carboxyethoxyimino group, ME1228.
Seiji Shibahara, Tsuneo Okonogi, Takashi Yoshida, Yasushi Murai, Toshiaki Kudo,
Shigeharu Inouye & Shinichi Kondo .....(1): 62~69
6-(Substituted methylene)penems, potent broad spectrum inhibitors of bacterial β-lactamase.
I. Racemic 6-ethylidenepenems.
Michael J. Basker & Neal F. Osborne .....(1): 70~75
6-(Substituted methylene)penems, potent broad spectrum inhibitors of bacterial β-lactamase.
II. Racemic furyl and thienyl derivatives.
Nigel J. P. Broom, Kenneth Coleman, Pamela A. Hunter & Neal F. Osborne .....(1): 76~82
Synthesis and β-lactamase inhibitory activity of 7α-hydroxyethyl cephem sulfone and sulfoxide derivatives.
Shintaro Nishimura, Nobuyoshi Yasuda, Hiroshi Sasaki, Yoshimi Matsumoto,
Toshiaki Kamimura, Kazuo Sakane & Takao Takaya .....(1): 114~117
New aminothiazolylglycylcephalosporins with a 1,5-dihydroxy-4-pyridone-2-carbonyl group.
I. Synthesis and biological activity of cephalosporin derivatives leading to MT0703.
Hiroko Ogino, Katsuyoshi Iwamatsu, Kiyoaki Katano, Satoru Nakabayashi,
Takashi Yoshida, Takashi Tsuruoka, Shigeharu Inouye & Shinichi Kondo .....(2): 174~188
New aminothiazolylglycylcephalosporins with a 1,5-dihydroxy-4-pyridone-2-carbonyl group.

II. Synthesis and antibacterial activity of MT0703 and its diastereomers.
HIROKO OGINO, KATSUYOSHI IWAMATSU, KIYOAKI KATANO, SATORU NAKABAYASHI, TAKASHI YOSHIDA, SEIJI SHIBAHARA, TAKASHI TSURUOKA, SHIGEHARU INOUYE & SHINICHI KONDO .....(2): 189~198
Synthesis and structure-activity relations in the class of 2-(pyridyl)penems.
A. BEDESCHI, G. VISENTIN, E. PERRONE, F. GIUDICI, F. ZARINI, G. FRANCESCHI, G. MEINARDI, P. CASTELLANI, D. JABES, R. ROSSI & C. DELLA BRUNA .....(3): 306~313
Synthesis and antibacterial activity of novel 2-methyl-1-oxacephalosporins.
TSUNEO OKONOGI, SHIBAHARA, YASUSHI MURAI, TAKASHI YOSHIDA, SHIGEHARU INOUYE, SHINICHI KONDO & BURTON G. CHRISTENSEN .....(4): 357~371
A novel carbapenem antibiotic, SM-7338 structure-activity relationships.
MAKOTO SUNAGAWA, HARUKI MATSUMURA, TAKAAKI INOUE, MASATOMO FUKASAWA & MASUHIRO KATO .....(5): 519~532
Synthesis of a new series of cephalosporins having 3-substituted-ammonio-1-propenyl group as the C-3 side chain.
HAJIME KAMACHI, MASAHISA OKA, YUKIO NARITA, SEIJI IIMURA, SHIMPEI ABURAKI, HARUHIRO YAMASHITA, KOZO TOMATSU, JUN OKUMURA & TAKAYUKI NAITO .....(5): 533~543
Structure-activity relationships of some arylglycine analogues and catechol isosteres of BRL 36650, a 6α-formamido penicillin.
DESMOND J. BEST, GEORGE BURTON, DAVID T. DAVIES, JOHN S. ELDER, TERENCE C. SMALE, ROBERT SOUTHGATE, ANDREW V. STACHULSKI, MICHAEL J. BASKER & SARAH J. KNOTT ..(5): 574~577
New orally active cephalosporin esters.
HIROTADA YAMADA, SHINJI UEDA, MASAYUKI MUTOH, HIDEO NAGATA, HIROSHI NOUDA, MASATOMO FUKASAWA & TAKAO OKUDA .....(5): 578~583
Direct introduction of a formamido group into the 7α(6α)-position of cephalosporins (penicillins).
HAJIME KAMACHI, TAKAAKI OKITA, TETSURO YAMASAKI & TAKAYUKI NAITO .....(7): 820~829
Synthesis and antibacterial activity of C-2 carboxyethenylthio-carbapenem derivatives.
MICHAEL J. BASKER, DAVID F. CORBETT, STEVEN COULTON & ROBERT SOUTHGATE .....(7): 847~857
Synthesis and biological activity of some 6α-formamido penicillins modified in the 2β-methyl group.
DAVID F. CORBETT, COLIN H. FRYDRYCH, ROBERT SOUTHGATE & MICHAEL J. BASKER .....(8): 1042~1044
Synthesis and oral activity of ME1207, a new orally active cephalosporin.
KENJI SAKAGAMI, KUNIO ATSUMI, ATSUSHI TAMURA, TAKASHI YOSHIDA, KEN NISHIHATA & SHUNZO FUKATSU .....(8): 1047~1050
Studies on orally active cephalosporin esters. VI. Synthesis and antimicrobial activity of 3-(3-isoxazolyl)oxymethylcephalosporin derivatives.
EIJI NAKAYAMA, KATSUHIKO WATANABE, MASAO MIYAUCHI, KOICHI FUJIMOTO & JUNYA IDE .....(9): 1122~1130
Synthesis and antibacterial activity of C-2 alkenylthio-carbapenem derivatives.
DAVID F. CORBETT, STEVEN COULTON, DAVID J. KNOWLES & ROBERT SOUTHGATE ....(9): 1137~1149
Synthesis and biological activity of (cyclopentenopyridinium)thiomethylcephalosporins.
KIYOAKI KATANO, HIROKO OGINO, KATSUYOSHI IWAMATSU, SATORU NAKABAYASHI, TAKASHI YOSHIDA, IZUMI KOMIYA, TAKASHI TSURUOKA, SHIGEHARU INOUYE & SHINICHI KONDO .....(9): 1150~1159
Synthesis and biological activity of 3-vinylthio- and 3-vinylthiomethylcephem derivatives.
SHINTARO NISHIMURA, NOBUYOSHI YASUDA, HIROSHI SASAKI, KOHJI KAWABATA, KAZUO SAKANE & TAKAO TAKAYA .....(9): 1160~1168
Synthesis and structure-activity relationships of monocarbams leading to U-78608.
MICHAEL R. BARBACHYN & TERRENCE C. TUOMINEN .....(9): 1199~1203
Antibacterial activity and chemical modifications of PS-5 at the C-3 side chain.
MICHIKO SAKAMOTO, KEN-ICHI YAMAMOTO, KUNIO ISSHIKI, TOMOYUKI ISHIKURA, YASUO FUKAGAWA & TAKEO YOSHIOKA .....(10): 1254~1270
Synthesis and antibacterial activity of 7β-[1-(2-aminothiazol-4-yl)-1-cyclopropanecarboxyamido]cephem derivatives.
SHINTARO NISHIMURA, NOBUYOSHI YASUDA, HIROSHI SASAKI, KAZUO SAKANE & TAKAO TAKAYA .....(10): 1278~1285
Synthesis and biological properties of 1-oxapenems.

Masayuki Murakami, Tsutomu Aoki, Munenori Matsuura & Wataru Nagata
.....(11): 1441~1449
A new antipseudomonal cephalosporin CP6162 and its congeners.
Katsuyoshi Iwamatsu, Kunio Atsumi, Kenji Sakagami, Hiroko Ogino, Takashi Yoshida, Takashi Tsuruoka, Seiji Shibahara, Shigeharu Inouye & Shinichi Kondo .....(11): 1450~1463
Improved synthesis of an ester-type prodrug, 1-acetoxyethyl 7-[(*Z*)-2-(2-aminothiazol-4-yl)-2-hydroxyimino-acetamido]-3-[(*Z*)-1-propenyl]-3-cephem-4-carboxylate (BMY-28271).
Hajime Kamachi, Takaaki Okita, Satsuki Okuyama, Hideaki Hoshi & Takayuki Naito .....(12): 1546~1572
Synthesis of 5,6-*cis*-penems.
Rie Tanaka, Hiromitsu Iwata & Masaji Ishiguro .....(12): 1608~1610

(Other Antibiotics)

Cyclic acetal derivatives of mitomycin C.
Takushi Kaneko, Henry Wong, William C. Rose, William T. Bradner & Terrence W. Doyle .....(1): 122~124
Water soluble derivatives of rebeccamycin.
Takushi Kaneko, Henry Wong, Jacob Utzig, John Schurig & Terrence W. Doyle .....(1): 125~127
Chemical modification of erythromycins.
II. Synthesis and antibacterial activity of *O*-alkyl derivatives of erythromycin A.
Shigeo Morimoto, Yoko Misawa, Takashi Adachi, Takatoshi Nagate, Yoshiaki Watanabe & Sadafumi Omura .....(3): 286~294
Studies on new dehydropeptidase inhibitors. IV. Chemical transformation of WS1358 compounds and an improved synthesis of WS1358A1.
Itsuo Uchida, Seiji Hashimoto, Toshiro Iwamoto, Shigehiro Takase & Masashi Hashimoto .....(4): 344~351
Preparation of new 7-hydroxyguanine derivatives and their biological activities.
Mikio Kitahara, Katsuhiro Shinjyo, Masafumi Fukae, Kazunori Hosoe, Tadayoshi Shiraishi, Kiyoto Ishii, Kiyoshi Watanabe & Hajime Kawaharada .....(4): 352~356
Synthesis and cytostatic activity of the antiumor antibiotic chartreusin derivatives.
Kenji Kon, Hideo Sugi, Kiyoshi Tamai, Yoshimichi Ueda & Nobutoshi Yamada ....(4): 372~382
The derivation of 1a-demethylmitomycin G from mitomycin C.
Motomichi Kono, Masaji Kasai, Kunikatsu Shirahata & Makoto Morimoto .....(4): 383~390
Synthesis and structure determination of FR109615, a new antifungal antibiotic.
Kohji Kawabata, Yoshiko Inamoto, Kazuo Sakane, Toshiro Iwamoto & Seiji Hashimoto .....(5): 513~518
Chemical modification of erythromycins. IV. Synthesis and biological properties of 6-*O*-methylerythromycin B.
Shigeo Morimoto, Takashi Adachi, Yoko Misawa, Takatoshi Nagate, Yoshiaki Watanabe & Sadafumi Omura .....(5): 544~549
Chemical modification of erythromycins. V. Synthesis and antibacterial activity of 4''-*O*-methyl derivatives of erythromycin A 11,12-cyclic carbonate.
Shigeo Morimoto, Yoko Misawa, Hideaki Kondoh, Yoshiaki Watanabe & Sadafumi Omura .....(5): 566~569
Chemical modification of erythromycins. VI. Structure and antibacterial activity of acid degradation products of 6-*O*-methylerythromycins A.
Shigeo Morimoto, Yoko Misawa, Toshifumi Asaka, Hideaki Kondoh & Yoshiaki Watanabe .....(5): 570~573
Amphotericin B 2-morpholinoethylamide diaspartate, a new water soluble derivative of the antibiotic synthesis and biological properties.
Andrzej Czerwiński, Teresa Zieniawa, Edward Borowski & Luigi G. Micossi .....(6): 680~683
Enzymatic synthesis of actinomycin D and analogues containing *N*-methylalanine from synthetic pentapeptide lactone precursors.
Edward Katz, Helen A. Lloyd & Anthony B. Mauger .....(6): 731~733
Derivatives of saquayamycins A and B. Regio- and diastereoselective addition of alcohols to the

L-aculose moiety.
THOMAS HENKEL & AXEL ZEECK .....(7): 830~837
3'-Hydroxyesorubicin. Synthesis and antitumor activity.
WALDEMAR PRIEBE, NOURI NEAMATI & ROMAN PEREZ-SOLER .....(7): 838~846
Amikacin analogs with a fluorinated amino acid side chain.
HIDEAKI HOSHI, SHIMPEI ABURAKI, SEIJI IIMURA, TETSURO YAMASAKI, TAKAYUKI NAITO & HIROSHI KAWAGUCHI .....(7): 858~872
Hydrazides — a novel type of derivatives of polyene macrolide antifungal antibiotics.
JOLANTA GRZYBOWSKA & EDWARD BOROWSKI .....(7): 907~908
Synthesis and biological activity of some amide derivatives of the lantibiotic actagardine.
ADRIANO MALABARBA, ROSETTA PALLANZA, MARISA BERTI & BRUNO CAVALLERI .....(9): 1089~1097
Amphotericin B *O*-methyl oxime. Synthesis and biological properties.
ANDRZEJ CZERWIŃSKI, WILFRIED A. KÖNIG, PAWEŁ SOWIŃSKI, LEONARD FALKOWSKI, JAN MAZERSKI & EDWARD BOROWSKI .....(9): 1098~1100
N^{15}-Alkyl and N^{15},N^{15}-dialkyl derivatives of eticoplanin antibiotics.
ADRIANO MALABARBA, ALDO TRANI, JÜRGEN KETTENRING, ERMINIO GERLI, ROSA PALLANZA, MARISA BERTI & BRUNO CAVALLERI .....(9): 1107~1121
Water-soluble pradimicin derivatives, synthesis and antifungal evaluation of *N,N*-dimethyl pradimicins.
TOSHIKAZU OKI, MASATOSHI KAKUSHIMA, MAKI NISHIO, HIDEO KAMEI, MINORU HIRANO, YOSUKE SAWADA & MASATAKA KONISHI .....(10): 1230~1235
Epimerization of erythromycin derivatives.
JOACHIM FIRL, AXEL PROX, PETER LUGER, ROLAND MAIER, EBERHARD WOITUN & KLAUS DANECK .....(10): 1271~1277
Synthesis of 8-chloro-3',4',5,7-tetrahydroxyisoflavone possessing antioxidant activity.
ADRIENNE L. TÖKÉS .....(10): 1332~1333
Synthesis and antibacterial activity of (9*S*)-9-dihydroclarithromycin.
RAMIN FAGHIH, MARK BUYTENDORP, RICHARD STEPHENS, DWIGHT HARDY, JAKE PLATTNER & PAUL LARTEY .....(10): 1334~1336
Improved antitumor effects of 3'-deamino-3'-morpholino derivatives of pirarubicin.
KEIICHI AJITO, DAISHIRO IKEDA, CHISATO NOSAKA, KEIKO KOMURO, SHINICHI KONDO & TOMIO TAKEUCHI .....(11): 1464~1470
Carboxyhydrazides of the aglycone of teicoplanin. Synthesis and antibacterial activity.
ALDO TRANI, ADRIANO MALABARBA, PIETRO FERRARI, ROSETTA PALLANZA, MARISA BERTI & ROMEO CIABATTI .....(11): 1471~1482
Synthesis of 6''-chloro-6''-deoxyamikacin and some its analogs.
EIJIRO UMEMURA, TSUTOMU TSUCHIYA, KOICHI TANAKA & SUMIO UMEZAWA .....(12): 1611~1614

Obituary

Prof. REZSÖ BOGNÁR .....(6): 737

Correction

In March issue: 43 (3) C-1

Original Article by J. C. FLORENT, A. GENOT & C. MONNERET: Synthesis and antitumor activity of new anthracyclines. J. Antibiotics Vol. 42, No. 12, pp. 1823~1830, December 1989

AUTHOR INDEX

ABE, FUMINORI 213, 1590
ABURAKI, SHIMPEI 533, 858
ADACHI, TAKASHI 286, 544
AJITO, KEIICHI 1464
ALBORN, W. E., Jr. 623
ALLEN, N. E. 92, 616, 623
ANDO, KATSUHIKO 1344
ANDOH, TOSHIWO 154, 158
ANKE, H. 648, 1240
ANKE, TIMM 207, 1010, 1413
ANRAKU, YUMI 247
AOKI, TSUTOMU 1441
AOYAGI, TAKAAKI 143, 149
ARGOUDELIS, ALEXANDER D. 438
ARLANDINI, EMANUELE 19
ARMAU, ELISE 199
ARMSTRONG, CATHERINE A. 1502
ASAKA, TOSHIFUMI 570
ASANO, NAOKI 722, 1039
ASHTON, RAYMOND J. 1387
ATSUMI, KUNIO 1047, 1450
ATSUMI, SONOKO 49, 1579
AZUMA, MASAYUKI 321
BACZYNSKYJ, LUBOMIR 438
BAKER, G. H. 1069
BAKER, P. J. 594, 623
BALDWIN, JACK E. 1055
BALLABIO, MARZIA 19
BARBACHYN, MICHAEL R. 1199
BARLOW, GRANT J. 223
BARRETT, T. 897
BASKER, MICHAEL J. 70, 574, 847, 1042
BEALE, JOHN M. 492
BEDESCHI, A. 306
BELTON, ANNETTE M. 668
BEPPU, TERUHIKO 321, 1101
BERETTA, G. 1349
BERGSTROM, ALAN R. 1179
BERRY, D. M. 587, 594, 623
BERTI, MARISA 1089, 1107, 1349, 1471
BESL, HELMUT 1413
BEST, DESMOND J. 574
BEUTLER, JOHN A. 107
BIRD, JULIETTE W. 1055
BOECK, L. D. 587, 607, 623
BOLGAR, MARK S. 920
BONNER, DANIEL P. 913
BORDERS, DONALD B. 504
BORDNER, JON 668, 1553
BORDONI, TERESA 19
BORMANN, CHRISTIANE 43
BOROWSKI, EDWARD 680, 907, 1098
BOX, STEPHEN J. 931
BRADNER, WILLIAM T. 122
BRILL, GREGORY M. 229
BROOM, NIGEL J. P. 76
BROSS, MONIKA 648, 1010, 1413
BRUNA, C. DELLA 306
BUCK, ROBERT HELMUT 707
BUKO, ALEX M. 229
BURTON, GEORGE 574
BUS, R. H. DU 594
BUYTENDORP, MARK 1334
CACCIAPUOTI, A. F. 1131
CAMPBELL, BENEDICT 422
CARTER, GUY T. 504
CASSINELLI, GIUSEPPE 19
CASTELLANI, P. 306
CAVALLERI, BRUNO 1082, 1089, 1107
CHENG, XING-CHUN 809, 890
CHMURNY, GWENDOLYN N. 107
CHRISTENSEN, BURTON G. 357
CIABATTI, ROMEO 1471
CLARDY, JON 444
CLARK, JUNIUS C. 913
CLARK, PATRICK 107
COLEMAN, KENNETH 76
COOPER, R. 897
CORBETT, DAVID F. 847, 1042, 1137
COULTON, STEVEN 847, 1137
COUNTER, F. T. 616, 623
CRAMER, C. L. 1131
CULLEN, WALTER P. 668
CUOMO, VINCENZO 655
CZERWIŃSKI, ANDRZEJ 680, 1098
DAIKOKU, TOHRU 1573
DANECK, KLAUS 1271
DAS, P. 897
DAUPHIN, G. 1189
DAVIES, DAVID T. 574
DEAN, LORETTA 913
DEBONO, M. 601
DECKER, HEINRICH 43
DELORT, A. M. 1189
DENARO, M. 1349
DEO, YASHWANT M. 992
DIRLAM, JOHN P. 668, 727
DORGAN, R. J. J. 1069
DOYLE, TERRENCE W. 122, 125
EDWARDS, DUNCAN M. F. 1349, 1359
EGUCHI, TADASHI 1077
ELDER, JOHN S. 574
ELSON, ANNA L. 931
ENDO, AKIRA 1597, 1621
ENSMINGER, P. W. 616, 623
ETIENNE, GILLES 199
EVERETT, J. R. 1069
EZAKI, MASAMI 1, 29, 449, 748

Faghih, Ramin 1334
Falkowski, Leonard 1098
Fantini, A. A. 253
Fendrich, Gabriele 1403
Fernández-Cañón, José M. 684
Ferrari, Pietro 1359, 1471
Ferrero, Miguel A. 684, 1559
Fiedler, Hans-Peter 43
Field, Robert A. 1055
Firl, Joachim 1271
Forenza, Salvatore 107, 956
Foulds, George 422
Fox, Keith R. 1307
Franceschi, G. 306
Frazier, Easter G. 1179
Fredenhagen, Andreas 655, 661, 1403
Frydrych, Colin H. 1042
Fujie, Akihiko 1, 281, 449, 1183
Fujii, Akio 213
Fujii, Hideji 213
Fujimoto, Koichi 1122
Fujiwara, Tatsuro 327
Fukae, Masafumi 352
Fukagawa, Yasuo 1254
Fukasawa, Masatomo 314, 519, 578
Fukase, Hiroshi 1039
Fukatsu, Shunzo 556, 909, 1047
Fukuda, D. S. 587, 594, 601, 616, 623
Funaishi, Kohtarou 938
Funayama, Shinji 247, 1329
Furihata, Kazuo 110, 135, 444, 477, 1337, 1606
Furihata, Keiko 1337, 1606
Gallo, Gian Gualberto 1359
Gerli, Erminio 1107
Geroni, Cristina 19
Ghisalba, Oreste 324
Gilljams, Gustav 1045
Gilpin, Martin L. 931
Girard, Dennis 422
Giudici, F. 306
Giuliani, Ferdinando 19
Giuliano, Ugo 655
Goegelman, R. T. 1375
Goetz, Michael A. 1179
Goldberg, Steven L. 992
Goldstein, B. P. 1349
Gomi, Katsushige 1513
Gomi, Shuichi 456
Good, Valerie M. 550
Goodman, J. 1059
Gootz, Thomas 422
Goshima, Eiichi 948
Gottschalk, Uwe 1051
Grabley, Susanne 639
Greenstein, M. 253, 1059
Grein, Arpad 19
Gruner, Johannes 88, 1403
Grzybowska, Jolanta 907
Gunji, Hiroki 909
Gwynn, Michael N. 550
Gygax, Daniel 324
Hagiwara, Masayuki 938
Hamada, Masa 143, 441, 584, 1000, 1192, 1195, 1489, 1505, 1586
Hamagishi, Yasutaro 967, 1018
Hamanaka, Ernest 422
Hammann, Peter 639, 1431
Hanada, Minoru 154, 158
Haneishi, Tatsuo 634
Hara, Mitsunobu 1513, 1519
Hara, Osamu 977
Harada, Setsuo 238
Hardy, Dwight J. 223, 1334
Hare, R. S. 1131
Hasegawa, Yoko 158
Hashimoto, Masashi 38, 344, 1394
Hashimoto, Michizane 748
Hashimoto, Seiji ..1, 29, 38, 281, 344, 449, 513, 1183
Hashizume, Terutaka 1617
Hasuda, Katsumi 948
Hatanaka, Hiroshi 29
Hatori, Masami 8, 771, 1223
Hatsu, Masahiro 259
Hattori, Seiko 584, 1000, 1505
Hattori, Teruo 783
Hautzel, R. 1240
Hayakawa, Yoichi 110, 444, 477, 1337, 1606
Hayashi, Fumiaki 1421
Hayashi, Michiko 1590
Heitsch, Holger 43
Henkel, Thomas 492, 830
Herrmann, Rupert 1413
Hesler, Grace A. 956, 1347
Hidaka, Tomomi 110
Hino, Motohiro 449
Hinoo, Hiroshi 783, 788
Hiramatsu, Muneyo 938
Hirano, Minoru 763, 1230
Hirata, Aiko 129
Hirooka, Keiichiro 783
Hirota, Hiroshi 948
Hobbs, J. N., Jr. 92, 616, 623
Hofmann, Hans 707
Homma, Yoshiko 584
Hood, J. D. 1069
Hook, Derek J. 1347
Hopwood, David A. 391
Hori, Makoto 1489
Horii, Satoshi 1039
Horikoshi, Koki 748
Horinouchi, Sueharu 321
Hoshi, Hideaki 858, 1564
Hoshikawa, Yutaka 1101
Hoshino, Yutaka 755

Hosoe, Kazunori 352
Hosokawa, Nobuo 1489
Huang, Liang H. 668
Hug, Paul 661
Hunter, Pamela A. 76
Hutchinson, C. Richard 977
Ichimura, Michio 1037
Ide, Junya 1122
Ido, Junko 948
Iijima, Masatomi 1195
Iimura, Seiji 533, 858
Iinuma, Hironobu 49, 1000, 1489, 1579
Iitaka, Yoichi 49, 441, 1000, 1192
Ikeda, Daishiro 1464
Ikeda, Haruo 391
Ikeda, Takako 584
Ikegami, Yoji 154, 158
Ikenishi, Yuji 1524
Imada, Chiaki 1489
Imai, Satoshi 909
Imai, Shinsuke 444, 1606
Imamura, Nobutaka 1553
Imanaka, Hiroshi 1, 29, 281, 449
Imoto, Masaya 1586
Inamoto, Yoshiko 1, 513
Inoue, Takaaki 519
Inouye, Shigeharu 62, 174, 189, 259, 357, 456, 1150, 1450
Inouye, Yoshio 1012, 1021
Isert, D. 100
Ishibashi, Masami 247
Ishiguro, Masaji 901, 1608
Ishii, Kazuyuki 154, 158
Ishii, Kikuo 1524
Ishii, Kiyoto 54, 352
Ishikura, Tomoyuki 1254
Ishiyama, Takashi 909
Ishizuka, Masaaki 1195, 1505
Isono, Kiyoshi 118, 163, 168, 809, 890
Isshiki, Kunio 584, 1195, 1254
Itazaki, Hiroshi 1421, 1524
Ito, Shin-ichi 1045
Itoh, Akira 948
Itoh, Jiro 456
Iwamatsu, Katsuyoshi 174, 189, 1150, 1450
Iwamoto, Toshiro 1, 344, 449, 513, 1183
Iwamoto, Yukimasa 948
Iwata, Hiromitsu 901, 1608
Jabes, D. 306
Jackson, Marianna 223
Jarvis, Bruce B. 1502
Jasys, John 422
Jeminet, G. 1189
Johnson, Janice H. 913, 920
Kajii, Kenzo 259
Kakinuma, Katsumi 1077
Kakinuma, Shizuko 391
Kakushima, Masatoshi 1028, 1230
Kamachi, Hajime 533, 820, 1564
Kameda, Yukihiko 722, 1039
Kamei, Hideo 8, 267, 763, 967, 1018, 1230, 1601
Kamimura, Toshiaki 114
Kanaya, Isao 1034
Kaneda, Miyuki 1623
Kaneko, Takushi 122, 125
Kantor, S. 1059
Karwowski, James P. 223
Kasai, Masaji 383
Katano, Kiyoaki 174, 189, 1150
Kataoka, Takao 1293
Katayama, Nozomi 238
Katayama, Toshiaki 634
Kato, Masuhiro 519
Kato, Toshiyuki 783, 788
Kato, Yoko 444
Katoh, Naoki 1302
Katz, Edward 731
Kawabata, Kohji 1, 513, 1160
Kawaguchi, Hiroshi 858
Kawaharada, Hajime 352
Kawakami, Yoshiyuki 470
Kawamoto, Isao 1037
Kawamura, Kenji 938
Kawamura, Yoshimi 739, 1421, 1524
Kawanishi, Gosei 1341
Kawano, Tsuyoshi 110
Kazami, Jun-ichi 1077
Kelbaugh, Paul 422
Kelemen, L. 1375
Kellogg, Michael 422
Kenig, Martin D. 1387
Kerns, Ed 1347
Kettenring, Jürgen 1082, 1107
Kim, Hyun Soo 692
Kimura, Keisuke 1621
Kimura, Ken-ichi 1341
Kinoshita, Kenji 1508
Kinoshita, Takeshi 634
Kitahara, Mikio 352
Kitahara, Toshiharu 1623
Kiyoto, Sumio 1394, 1615
Klesel, N. 100
Knott, Sarah J. 574
Knowles, David J. C. 550, 1137
Knübel, Georg 1236
Kobaru, Seikichi 267
Kobayashi, Eiji 1037, 1513
Kobayashi, Michihiko 1316
Kobel, Hans 707
Kobori, Masato 331
Kodama, Yoshio 259
Köhnlein, Wolfgang 1051
Kohsaka, Masanobu 1, 29, 281, 449, 748, 1186, 1394, 1615

Koizumi, Yumi 1195
Kojima, Yasuhiro 668
Kojiri, Katsuhisa 1006
Köller, Wolfram 734
Komagata, Daisuke 1597, 1621
Komiya, Izumi 1150
Komiyama, Kanki 247, 1329
Komori, Tadaaki 778, 904
Komuro, Keiko 556, 1464
Kon, Kenji 372
Kondo, Hisao 1533
Kondo, Shinichi 54, 62, 174, 189, 259, 357, 1150, 1450, 1464
Kondoh, Hideaki 566, 570
König, Wilfried A. 43, 1098
Konishi, Masataka 8, 267, 755, 771, 796, 967, 1018, 1028, 1230, 1367
Kono, Motomichi 383
Kono, Yoshiaki 722
Korshalla, J. 253, 1059
Koseki, Koshi 1101
Koss, David A. 727
Kretzschmar, Gerhard 1431
Krishna, N. Rama 1543
Krishnan, Bala S. 961, 1347
Kuck, N. 253
Kudo, Toshiaki 62
Kuhn, Anton 655
Kuhnt, Dorothée 1413
Kumagai, Hidetoshi 397, 1064, 1553
Kumagai, Hiroyuki 1505
Kunimoto, Setsuko 556
Kuo, Ming-S. T. 438
Kusakabe, Hiroo 163
Labeda, D. P. 253, 1059
Laborde, Alice L. 438
Lam, Kin Sing 956
Larsen, Linda K. 1236
Lartey, Paul 1334
Lee, Mike 1347
Leet, John E. 961
Levine, Ira A. 1236
Li, Hui-Yin 1077
Liesch, Jerrold M. 1179, 1380
Limbert, M. 100
Lloyd, Helen A. 731
Loebenberg, D. 1131
Luengo, José M. 684, 1559
Luger, Peter 1271
Luk, Kong 1387
Mabe, J. 623
Mae, Takako 1590
Maeda, Hiroshi 668
Magae, Junji 1293
Maibücher, Axel 1051
Maier, Roland 1271
Maiese, W. M. 253, 1059
Malabarba, Adriano 1082, 1089, 1107, 1471
Mallams, A. K. 1131
Mamber, Stephen W. 956
Märki, Fritz 1403
Märki, Walter 1403
Markus, A. 100
Martín-Villacorta, Javier 684, 1559
Masuda, Toru 1195, 1505
Masuma, Rokurō 83
Matson, James A. 961
Matson, Jim 1347
Matsuda, Naoko 441, 1192, 1195
Matsuda, Tomoko 634
Matsuda, Yasuchika 1012
Matsui, Katsuhiko 722, 1039
Matsumoto, Koichi 1421, 1524
Matsumoto, Makoto 739
Matsumoto, Yoshimi 114
Matsumura, Fumiko 129
Matsumura, Haruki 519
Matsuoka, Tatsuji 1031
Matsuura, Munenori 1441
Mattei, Jacqueline M. 956
Mauger, Anthony B. 220, 731
Mazerski, Jan 1098
McAlpine, James B. 223, 229
McCullough, John 913
Meinardi, G. 306
Menke, Henning 1051
Menzel, F. W., Jr. 1131
Merli, Sergio 19
Mertz, F. P. 587, 623
Metral, Climaco J. 107
Micossi, Luigi G. 680
Mikawa, Takashi 456
Miki, Toyohiko 948
Miller, Donald M. 1543
Miller, G. H. 1131
Misawa, Yoko 286, 295, 544, 566, 570
Miyachi, Junko 295
Miyadoh, Shinji 259
Miyaki, Takeo 267, 755, 771, 967, 1223, 1601
Miyata, Nobuo 1341
Miyauchi, Masao 1122
Miyazaki, Shigeru 154, 158
Mo, Cheng-Jun 1337
Mocek, Ursula 1413
Mochizuki, Junichiro 110
Mokudai, Tsuyoshi 1513
Molloy, R. M. 601
Montanari, Antonio 883
Moore, Richard E. 1236
Mori, Hiroharu 1329
Mori, Kenji 1101
Morikawa, Noriyuki 29
Morimoto, Makoto 383
Morimoto, Shigeo 286, 295, 544, 566, 570

Morimoto, Yukiyoshi 904
Morishima, Hajime 1006
Moriya, Yukari 1489
Morohoshi, Toshiro 1508
Morris, Stephen J. 1286
Moss, E. L., Jr. 1131
Murai, Hidetsugu 29, 281
Murai, Yasushi 62, 357
Murakami, Masayuki 1441
Murakami, Tsutomu 715
Murakawa, Shigeo 1597, 1621
Muraoka, Yasuhiko 1192
Muto, Yoshinori 1302
Mutoh, Masayuki 578
Mynderse, J. S. 587, 594, 601, 616, 623
Nagai, Kazuo 1293
Nagai, Kouji 154, 158
Nagaki, Hidemi 634
Naganawa, Hiroshi 49, 149, 441, 584, 1000, 1192, 1195, 1489, 1505
Nagasawa, Toru 1316
Nagashima, Kazuo 1421, 1524
Nagata, Hideo 578
Nagata, Wataru 1441
Nagate, Takatoshi 286, 295, 544
Naito, Takayuki 533, 820, 858, 1564
Nakabayashi, Satoru 174, 189, 1150
Nakagawa, Keiko 1321
Nakagawa, Masaya 477
Nakagawa, Susumu 1617
Nakagawa, Yuzo 1524
Nakagomi, Kazuya 462, 470
Nakahara, Kaori 1031
Nakai, Hiroshi 739, 1524
Nakajima, Mutsuo 634
Nakajima, Noboru 1341
Nakajima, Shigeru 1006, 1533
Nakajima, Terumi 462, 470
Nakamura, Akito 1293
Nakamura, Hikaru 49, 441, 1000, 1192
Nakamura, Shoshiro 1012, 1021, 1623
Nakamura, Teiichi 1597
Nakamura, Yasushi 143, 149
Nakano, Hirofumi 1037, 1344, 1513
Nakatsukasa, W. M. 623
Nakayama, Eiji 1122
Nakayama, Hiroshi 110
Nakayama, Osamu 1394, 1615
Nakayama, Shōji 1341
Naples, L. R. 1131
Narita, Yukio 533
Naruse, Nobuaki 267
Neamati, Nouri 838
Nemoto, Kyuichi 213, 1590
Nemoto, Mayumi 403
Nevell, Thomas G. 1286
Nielsen, James W. 438
Nietsche, Jeanne A. 504
Nihira, Takuya 692
Nishi, Kazunori 321
Nishida, Hiroyuki 668, 1553
Nishihata, Ken 1047
Nishikawa, Junko 788
Nishikawa, Motoaki 1186
Nishimura, Shintaro 114, 1160, 1278
Nishimura, Toshio 129, 135, 138, 411
Nishimura, Yoshio 54
Nishio, Maki 755, 771, 1223, 1230, 1367
Nishio, Maki 1012
Nishioka, Hiroshi 1586
Nishiyama, Satoshi 668
Nishiyama, Yuji 8, 796
Nishiyama, Yukihiro 1573
Nitta, Kumiko 281, 1183
Niwa, Takako 634
Nogami, Takashi 1192
Nohara, Chieko 331
Nosaka, Chisato 556, 1464, 1579
Noshio, Maki 1028
Nouda, Hiroshi 578
Nozaki, Yukimasa 238
Nüesch, Jakob 324
Numata, Kazuo 295
Numata, Kei-ichi 715, 1028
O'Callaghan, Niamh M. 1055
O'Connor, Sean 1347
Oda, Nahomi 1601
Ogata, Rie 441
Ogawa, Tatsuhiro 1037
Ogawara, Hiroshi 1483
Ogino, Hiroko 174, 189, 1150, 1450
Ogura, Mitsuo 873
Ohbayashi, Masaru 796, 1601
Ohkishi, Haruyuki 456
Ohkuma, Hiroaki 755
Ohkusa, Noriyuki 796
Ohno, Hiroe 1344
Ohsono, Michiyo 1505
Oie, Shinji 417
Oka, Masahisa 533, 967, 1018
Okabe, Takayoshi 129, 135
Okamoto, Masanori 1186
Okanishi, Masanori 938, 1006, 1533
Okazaki, Takao 634
Oki, Toshikazu 8, 267, 715, 755, 763, 771, 796, 967, 1018, 1028, 1223, 1230, 1367, 1601
Okita, Takaaki 820, 1564
Okonogi, Tsuneo 62, 357
Okuda, Takao 314, 578
Okuhara, Masakuni 1, 29, 281, 449, 748, 1183, 1394, 1615
Okumura, Jun 533
Okura, Akira 1533
Okuyama, Satoshi 909

Okuyama, Satsuki 1564
Omura, Sadafumi 286, 295, 544, 566
Ōmura, Satoshi 83, 247, 391, 397, 1034, 1064, 1207, 1329, 1553
Ondeyka, J. G. 1375
Ono, Hideo 238
Ono, Takeo 295
Onodera, Kazukiyo 1045
Oogose, Keiko 1021
Orikasa, Yoshinori 259
Osada, Hiroyuki 163, 168
Osborne, Neal F. 70, 76
Oscarson, John R. 668
Oshino, Kazushi 1064
Osono, Michiyo 1195
O'Sullivan, Joseph 913
Ōtake, Noboru 873, 1077
Otani, Toshio 417
Ott, J. 616, 623
Ozasa, Teruaki 331
Pallanza, R. 1349
Pallanza, Rosa 1107
Pallanza, Rosetta 1089, 1471
Papiska, H. R. 587
Parker, Diana M. 734
Patel, M. 897
Patterson, Gregory M. L. 1236
Perez-Soler, Roman 838
Perrone, E. 306
Peter, Heinrich H. 655, 661, 1403
Pfefferle, W. 648
Planterose, Donald N. 1387
Plattner, Jake 1334
Poulton, M. E. 1069
Pramanik, B. 897
Presseau-Linabury, Laura 727
Preston, D. A. 92, 616
Priebe, Waldemar 838
Prox, Axel 1271
Puar, Mohindar S. 897, 1497
Raether, Wolfgang 639
Raschdorf, Fritz 1403
Reglero, Angel 684, 1559
Ricketts, Anthony P. 668
Rivola, Giovanni 19
Rohr, Jürgen 492, 1169
Roman, John 107
Romero, Jorge G. 992
Römmele, Günter 88
Rosazza, John P. N. 883
Rose, William C. 122
Rossi, R. 306
Rudeen, J. A. 1131
Saito, Takeshi 154, 158, 331
Saitoh, Keiko 403
Saitoh, Kyoichiro 755
Saitoh, Yutaka 336, 485, 1344, 1519
Sakagami, Kenji 1047, 1450
Sakai, Atsushi 327
Sakai, Kaoru 1597
Sakai, Shinichi 470
Sakai, Ted T. 1543
Sakakibara, Hideo 327
Sakakibara, Tatsuo 668
Sakamoto, Michiko 1254
Sakane, Kazuo 1, 114, 513, 1160, 1278
Sakazaki, Ryuji 1245
Sakurai, Yuko 403
Sanada, Minoru 1617
Sanglier, Jean-Jacques 707
Sano, Hiroshi 336, 485, 1519
Sasaki, Hiroshi 114, 1160, 1278
Sasaki, Kazuya 1045
Sasaki, Toru 259
Sato, Kazuo 1321
Sato, Kiyoshi 441
Sato, Tsutomu 158
Satoh, Fumio 938, 1533
Sawa, Tsutomu 584, 1195, 1489, 1505, 1586
Sawada, Yosuke 715, 771, 1223, 1230, 1367
Sawai, Tetsuo 403
Schaeffer, James M. 1179, 1375
Schelkley, William 422
Schofield, Christopher J. 1055
Schrinner, E. 100
Schroeder, Daniel R. 961
Schumacher, Doris 1497
Schurig, John 125
Schwartz, J. 897
Schwenen, Ludger 492
Scott-Wood, Gillian 1387
Seibert, Gerhard 100, 1431
Sekine, Takeshi 154
Selitrennikoff, Claude P. 433
Selva, Enrico 1349, 1359
Serizawa, Nobufusa 1031
Seto, Haruo 110, 444, 477, 873, 1337, 1606
Sezaki, Masaji 259
Sheldrick, W. S. 1240
Shibahara, Seiji 62, 189, 357, 1450
Shigematsu, Nobuharu 449, 748
Shigihara, Yasuhiro 143, 1192
Shiinoki, Yoshikazu 1012
Shimada, Nobuyoshi 1573
Shimazu, Akira 129, 1337, 1606
Shimura, Naomi 1586
Shinjyo, Katsuhiro 352
Shinoda, Takako 411
Shinose, Mayumi 1034
Shin-ya, Kazuo 444, 1337
Shiomi, Kazuro 1000
Shirahata, Kunikatsu 383
Shiraishi, Akio 634
Shiraishi, Tadayoshi 352

Shiratori, Osamu 783
Shoji, Jun'ichi 739, 783, 788, 1245
Shomura, Takashi 259
Smale, Terence C. 574
Solf, Renate 88
Southgate, Robert 574, 847, 1042, 1137
Sowiński, Paweł 1098
Stachulski, Andrew V. 574
Stam, John 422
Steffan, Bert 207, 648, 1413
Steglich, Wolfgang 207, 648, 1010, 1413
Stephens, Richard 1334
Stuart, O. A. 220
Suda, Hiroyuki 1533
Sudo, Yōhei 1329
Sugawara, Koko 8, 796
Sugawara, Yumi 1590
Sugi, Hideo 372
Sugimoto, Yoshikazu 417
Sugita, Kazuhiko 295
Sugita, Kenji 1524
Sumita, Yoshihiro 314
Sunagawa, Makoto 519
Suzaki, Kiyoshi 331
Suzukake-Tsuchiya, Kayoko 1489
Suzuki, Hideaki 1508
Suzuki, Hideo 129, 135, 138, 411
Suzuki, Kenichi 154, 158, 331
Swanson, Sue J. 223
Tada, Hideaki 692
Taft, Cathy S. 433
Tago, Yoshitaka 411
Tahara, Makoto 129, 135, 138
Tajima, Shuichi 909
Takada, Teruyo 213
Takahashi, Hidetoshi 163, 168
Takahashi, Isami 1037
Takahashi, Katsutoshi 1573
Takahashi, Kei-ichi 1037, 1344
Takahashi, Masako 129
Takahashi, Yōko 247, 1034
Takahashi, Yoshikazu 441, 1192
Takamatsu, Yasuyuki 634
Takase, Shigehiro 38, 344
Takatsu, Toshio 634
Takaya, Takao 114, 1160, 1278
Takenaka, Satoshi 1508
Takeuchi, Makoto 462
Takeuchi, Masayoshi 722
Takeuchi, Noriaki 158
Takeuchi, Tomio 49, 143, 149, 213, 441, 556, 584, 1000, 1192, 1195, 1464, 1505, 1590
Takeuchi, Yasuo 259, 456
Takita, Tomohisa 441, 1192
Tally, Francis P. 1302
Tamai, Kiyoshi 372
Tamura, Atsushi 1047
Tanaka, Hideoki 462, 470
Tanaka, Hirokazu 38
Tanaka, Koichi 1611
Tanaka, Miho 1394
Tanaka, Nobuo 129, 135, 1533, 1617
Tanaka, Rie 901, 1608
Tanaka, Teruo 873
Tanaka, Yoshitake 83, 1034
Tanimichi, Harumi 715
Tatsuta, Kuniaki 909
Tawara, Katsuya 783
Tenmyo, Osamu 267, 763
Tensfeldt, Thomas 422
Terui, Akihiro 1524
Terui, Yoshihiro 739, 783, 788, 1245, 1421
Theriault, Robert J. 223
Thomas, J. 253
Thurston, David E. 1286
Tillis, Pauline M. 223
Tiraby, Gérard 199
Toda, Soichiro 796
Tōkés, Adrienne L. 1332
Tomatsu, Kozo 533, 763
Tomida, Akihiro 138
Tomita, Koji 8, 755, 956, 967, 1018, 1601
Tomiya, Tetsuji 118
Tomizuka, Noboru 462, 470
Tomoda, Hiroshi 397, 1064, 1207, 1553
Tone, Junsuke 668
Torikata, Akio 1321
Torrey, M. J. 1059
Toyama, Keitaro 1483
Traber, René 707
Trail, Frances 734
Trani, Aldo 1107, 1471
Treichler, Hansjörg 324
Trejo, William H. 913
Truesdell, Scott E. 438
Truumees, I. 897
Tsubotani, Shigetoshi 238
Tsuchiya, Tsutomu 556, 1611
Tsuji, Ryohei F. 1293
Tsujii, Eisaku 1
Tsukamoto, Yoshihisa 1321
Tsukuda, Katsuhitsu 668
Tsuno, Takashi 1376
Tsunoda, Kyoko 163
Tsurumi, Yasuhisa 1183
Tsuruoka, Takashi 174, 189, 1150, 1450
Tsutsui, Yoshihiro 1573
Tuominen, Terrence C. 1199
Turner, J. R. 92
Tymiak, Adrienne A. 920
Ubukata, Makoto 809, 890
Uchida, Itsuo 38, 344, 1394
Ueda, Shinji 578
Ueda, Yoshimichi 372

Ueno, Kazue 1302
Umemura, Eijiro 1611
Umezawa, Kazuo 49, 1579, 1586
Umezawa, Sumio 1611
Uotani, Nobuo 1524
Urabe, Hiroaki 1483
Uramoto, Masakazu 118, 168
Utzig, Jacob 125
Vanduyne, Gregory D. 444
Vaufrey, F. 1189
Vékey, Károly 1082
Vianden, R. 648
Visentin, G. 306
Volkmann, Robert 422
Vosbeck, Klaus 88
Wahren, Britta 1045
Walz, Franz 43
Watabe, Hiro-omi 259
Watanabe, Katsuhiko 1122
Watanabe, Kiyoshi 352
Watanabe, Kunitomo 1302
Watanabe, Shun-ichi 154, 158
Watanabe, Yoshiaki 286, 544, 566, 570
Weber, Wolfgang 207
Wehrli, Walter 88
Werle, Andreas 1010
Wetzel, R. W. 587, 607
Whittern, David N. 229
Wichmann, C. F. 1380
Wierzba, Konstanty 417
Wigzell, Hans 1045
Wildey, M. J. 253
Williams, David R. 504
Williamson, Joanne M. 1179
Wink, Joachim 693
Winstanley, David J. 931
Wirz, Gabriela 88
Woitun, Eberhard 1271
Wong, Henry 122, 125
Wu, C. Y. E. 92, 616
Yacobucci, Joseph J. 1347
Yagi, Masashi 1394, 1615
Yagi, Yoshihiko 1204
Yamada, Hideaki 1316
Yamada, Hirotada 578
Yamada, Kenji 295
Yamada, Nobutoshi 372
Yamada, Toshimitsu 331
Yamada, Yasuhiro 692
Yamada, Yoshinari 1573
Yamada, Yuji 417
Yamaguchi, Akihito 403
Yamaguchi, Hideyo 129, 135, 138, 411
Yamaguchi, Hiroshi 154, 158
Yamaguchi, Maki 411
Yamaki, Hiroshi 129, 411
Yamamoto, Haruaki 755, 771, 796, 1223, 1367
Yamamoto, Haruo 259
Yamamoto, Katsumi 1012
Yamamoto, Ken-ichi 1254
Yamamoto, Masakuni 1293
Yamamoto, Naohiko 1573
Yamamoto, Naoki 1045
Yamamoto, Naoko 1533
Yamamoto, Satoshi 715
Yamaoka, Kazukiyo 1302
Yamasaki, Kazuo 1623
Yamasaki, Makari 1293
Yamasaki, Tetsuro 820, 858
Yamashita, Haruhiro 553
Yamashita, Michio 748
Yamashita, Takumi 213
Yamashita, Yoshinori 1344
Yamazaki, Katsuhisa 1489
Yanaka, Noriyuki 1316
Yao, R. C. 623
Yasuda, Nobuyoshi 114, 1160, 1278
Yasuda, Yukio 1524
Yasuzawa, Tohru 336, 485, 1037
Yoshida, Hiroshi 1524
Yoshida, Keizo 1186
Yoshida, Masaru 748
Yoshida, Mayumi 1519
Yoshida, Minoru 1101
Yoshida, Shigemi 143, 149
Yoshida, Tadashi 739
Yoshida, Takashi 62, 174, 189, 357, 1047, 1150, 1450
Yoshida, Yukie 403
Yoshihama, Makoto 1341
Yoshikawa, Nobuji 456
Yoshimatsu, Shinya 1524
Yoshimura, Yohko 739
Yoshioka, Takeo 1254
Yurek, David A. 438
Zähner, Hans 43
Zarini, F. 306
Zeeck, Axel 639, 830, 1169
Zeng, Ming 1502
Zhen, De-Zhong 83
Zieniawa, Teresa 680
Zitano, L. 1375

SUBSTANCE INDEX

Page numbers of principal references are shown in **bold** print.

Acetylmichigazone 1606
Aclarubicin 1489
Actagardine **1082**, 1089
Actagardine derivatives **1089**
Actinomycin D 129, 138, 199, **731**
Actinomycin D analogues **731**
Actinomycins **220**
Actinonin 143
Aculeacin A 433
Adriamycinol, 7-*O*-2,6-dideoxy-2-fluoro-α-L-talopyranosyl)- **556**
Adriamycinone, 7-*O*-(2,6-dideoxy-2-fluoro-α-L-talopyranosyl)- **556**
Adriamycinone-14-hemipimerate, 7-*O*-(2,6-dideoxy-2-fluoro-α-L-talopyranosyl)- **556**
Agglomerin A, B, C, D **1245**
Aladapcin **634**
Altromycin A, B, C, D **229**
Altromycins **223**
Amastatin 143
Amikacin 1611
Amikacin derivatives **858**
Amikacin, 6″-chloro-6″-deoxy- **1611**
Aminoglycoside derivatives 858
Amphotericin A 470
Amphotericin B 1, 199, 470, 680, 715, 763, 771, 904, 948, 1098, 1223, 1230, 1489
Amphotericin B 3-dimethylamino propylamide diaspartate 680
Amphotericin B *O*-methyl oxime **1098**
Amphotericin B 2-morpholinoethylamide diaspartate **680**
Ampicillin 1089, 1254, 1302
Amycin A, B **639**
Anthracycline derivatives **1021**
Anthracyclines 199
Anthramycin **1286**
Antiostatin A_1, A_2, A_3, A_4, B_2, B_3, B_4, B_5 ..... **1337**
Apramycin 199
Asperfuran **648**
Atpenin A4, A5 ..... **1553**
Atpenin B **1064**, **1553**
Azinothricin 477
Aztreonam **403**, 1199
Benanomicin A 1367
Benzylpenicillin 422, **684**, 1089, 1302
Bleomycins 199
Butirosin 199
Candicidin 199
Carazostatin 1337
Carbapenem derivatives, alkenylthio- **1137**
Carbapenem derivatives, carboxyethenylthio- **847**
Carbazole, 6-cyano-5-methoxyindolo-[2,3-*a*]- **1236**
Carbazole, 6-cyano-5-methoxy-12-methylindolo[2,3-*a*]- **1236**
Carbazomycin A, D, E, F, G, H 1623
Carbazomycin B **1347**, **1623**
Carbazomycin C **1347**, 1623
Carbenicillin 1302
Cefaclor 578, 1047
Cefamandole 92
Cefazolin 1254, 1302
Cefixime 578, 1047
Cefmenoxime 357, 1302
Cefmetazole 1302
Cefoperazone 174, 189
Cefotaxime 92, **100**, 820, 1302
Cefotiam 578
Cefoxitin 403, 1302, 1617
Cefpirome **100**, 1150
Cefpodoxime 1122
Cefsulodin 189
Ceftazidime 62, 174, 189, 357, 533, 1150, 1450, 1617
Cefteram 578, 1047
Cefteram pivoxil 578, 1047
Ceftizoxime 1160, 1302
Ceftriaxone 357, 422
Cefuroxime 403, 578
Cefuroxime axetil 578
Cepafungin I, II, III **783**, **788**
Cephaloridine 403, 1089, 1302
Cephalosporin C 449
Cephalosporin derivatives **174**
Cephalosporin derivatives, 3-[2-(5-hydroxy-4-pyridon-2-yl)ethenyl]- **1450**
Cephalosporin derivatives, 3-(3-isoxazolyl)oxymethyl- **1122**
Cephalosporin derivatives, 3-substituted-ammonio-1-propenyl- **533**
Cephalosporin esters **578**
Cephalosporins **1055**
Cephalosporins, (cyclopenteno-pyridinium)thiomethyl- **1150**
Cephalothin 820
Cephem-4-carboxylate, 1-acetoxyethyl 7-[(*Z*)-2-(2-aminothiazol-4-yl)-2-hydroxyimino-acetamido]-3-[(*Z*)-1-propenyl]-3- **1564**
Cephem derivative, 3-[(*Z*)-2-cyanovinyl-thiomethyl]- **1160**
Cephem derivatives, 7β-[1-(2-aminothiazol-4-yl)-1-cyclopropanecarboxyamido]- **1278**
Cephem derivatives, 7α-hydroxyethyl- **114**
Cephem derivatives, 3-vinylthio- **1160**
Cephem derivatives, 3-vinylthiomethyl- **1160**

Cephems, 7α-formamido 820
Chartreusin derivatives 372
Chloramphenicol 92
Chromomycin A_3 ....110, 796, 883, 1489
Cilofungin 433
Cinnamycin 1403, 1421
Citreamicin α, β, γ, ζ, η 504
Citropeptin 477
Clarithromycin 544, 1334
Clarithromycin, (9*S*)-9-dihydro- 1334
Clavulanic acid 76, 114, 1441
Cloxacillin 1302
Cochlioquinone A 1179
Colistin 199
Curromycin 873
Cycloheximide 199
Cyclophellitol 49, 1579
Cyclosporins 707
Cytogenin 1505
Damavaricin Fc 1045
Damavaricin Fc, 19-*O*-*n*-pentyl- 1045
Daptomycin 616
Daunorubicin 19, 199, 1021
Dealanyl pradimicinone 1367
Decilorubicin 54
Deglucoteicoplanin hydrazides 1471
Deoxydynemicin A 1000
Deoxynojirimycin 1579
Deoxyspergualin 213, 1590
Depsidomycin 1195
Desmycosin, 4′-deoxy- 327
Diacetyleponemycin 8
Diacetylquinaldopeptin 796
Dianemycin 727
Diazaquinomycin A, B 1207
Dihydroeponemycin 8
Dihydroparaherquamide 1375
Dihydroxerulin 1413
Dirithromycin 1271
iso-Dirithromycin 1271
Doxorubicin 19, 129, 138, 199, 556, 838, 1021, 1489, 1513
Duocarmycin A 1037
Duocarmycin SA 1037
Duramycin 1403, 1421
Duramycin B, C 1403
Dynemicin A 1000
Ebelactone A, B 734
Echinocandin B 433
Echinomycin 199, 1307
Elaiophylin 639
Elaiophylin derivatives 1431
Elloramycin 1169
Elloramycin derivatives 1169
Enactin congeners 1012
Endusamycin 727
17-Epipradimicin A 1028
Eponemycin 8
Eremomycin 550
Erythromycin 199, 449, 977, 1089, 1131
Erythromycin A 295, 544, 938, 1334
Erythromycin A 11,12-cyclic carbonate derivatives 566
Erythromycin A derivatives 286
Erythromycins A, 6-*O*-methyl- 570
Erythromycin B 544
Erythromycin B, 6-*O*-methyl- 544
Esorubicin analogues 838
Esorubicin, 3′-hydroxy- 838
Etamycin 1601
Eurocidin C 462
Eurocidin D, E 462, 470
Eurocidin-T 462
Exfoliazone 1606
Feldamycin 1601
Filipin 199, 1489
SH-Formycin 1586
Formycin, 7-deamino-7-mercapto- 1586
Formycin B 1586
Fortimicin A 199
Fosfadecin 238
Fosfocytocin 238
Fosfomycin 238
Fosfoxacin 238
Furaquinocin A, B 247
Geldanamycin 199
Gentamicin 199, 992
Gilvocarcin V tetraacetate 1077
Glucopiericidin A 1329
Glucopiericidin A, 13-hydroxy- 1329
Glucopiericidinol A_1, A_2 1329
Glutamic acid, 7-hydro-8-methyl-pteroylglutamyl- 1207
Guanine derivatives, 7-hydroxy- 352
Hedamycin 485
Himastatin 956, 961
Hygromycins 199
Imipenem 100, 281, 314, 422, 847, 1137, 1160, 1254, 1302
Isoflavone, 8-chloro-3′, 4′, 5, 7-tetrahydroxy- 1332
Ivermectin 1179
Janthinocin A, B, C 913, 920
Josamycin 295, 938
Juvenimicin A_4 939
Kalafungin 391
Kanamycin 199, 992
Kapurimycin A1, A2, A3 ....1513, 1519
Kidamycin 485
Kijimicin 441
Landomycin A, B, C, D 492
Lanthiopeptin 1421
Latamoxef 1302
Lincomycin 449, 1089
Lomofungin 199

Maduramicin 668, 1059
Mecillinam 403
Methylamycin B 639
Midecamycin 977
Mikamycin B 1601
Milbemycin A_4 derivatives **1321**
Milbemycins 1321
Minocycline 199
Mithramycin **1543**
Mitomycin 199
Mitomycin C 8, 122, 331, 796, 1489, 1513
Mitomycin C derivatives **122**
Mitomycin G, 1a-demethyl- **383**
Monacolin J **397**, 1597, 1621
Monacolin K **397, 1621**
Monacolin L 1597
Monacolin L, 4a,5-dihydro- 1597
Monacolin L, 3α-hydroxy-3,5-dihydro- **1597**
Monazomycin B **438**
Monensin 199, 441, 668, **1189**
Mycenon **1240**
Mycinamicins **1508**
Mycophenolic acid 1489
Nanaomycin A, D, E **83**
Naphterpin **444**
Neocarzinostatin **1051**
Neoenactin congeners 1012
Neomycin 199, 992
Neopyrrolomycin **1192**
Neothramycin A, B **1286**
Nigericin 199, 639
Nikkomycin W_x, W_z **43**
Niphimycin 639
Nocardicin A 449
Nogalamycin 199
Nojirimycin 1579
Novobiocin 199
Nystatin 199, 948, 1489
Octanoylpenicillin **684**
Oleandomycin **909**
Orobol 1586
Oudemansin X **1010**
Oxacephem derivatives, 2-methyl-1- **357**
Oxanosine 1586
1-Oxapenems **1441**
Oxetanocin G **1573**
Oxetin **1207**
Oxytetracycline 1601
Oxytetracycline, 2-acetyl-2-decarboxamido- 1601
Paraherquamide **1375**
Paraherquamide B, C, D, E, F, G **1375, 1380**
Paromomycin 199
Partricins 1489
Penem derivatives **76**
Penems, 5,6-*cis*- **1608**
Penems, *E,Z*-6-ethylidene- **70**
Penems, 2-(pyridyl)- **306**
Penicillin derivatives, 6α-formamido **1042**
Penicillins **1055, 1559**
Penicillins, 6α-formamido **820**
Penicillins, 6α-formamido, acylureido 574
Pentanoic acid, (*S*)2-amino-4-oxo-5-hydroxy- **411**
Phenoxymethylpenicillin **684**
Phosalacine **1207**
Phosphazomycin C **118**
Phthoxazolin **1034**
Piericidin A_1 1341
Piericidin A_1, 3′-rhamno- **1341**
Pimaricin 199
Piperacillin 1302
Piperafizine A, B **1018**
Pirarubicin 1464
Pirarubicin, 3′-deamino-3′-morpholino derivatives **1464**
Pirazmonam 1199
Placetin A, A1, B, B1 .....**331**
Polyene macrolide hydrazides **907**
Polymyxin B 199
Potassium clavulanate 70
Pradimicin A **715, 755, 763**, 771, **1028**, 1223, 1230, 1367
Pradimicin B **755, 763**, 1028
Pradimicin C **755, 763**, 771, 1028, 1223, 1367
Pradimicin D, E **771**
Pradimicin FA-1, FA-2 .....**1223**
Pradimicin M, N, O, P **1367**
Pradimicinone 1367
Pradimicins, *N,N*-dimethyl- **1230**
Probestin **143, 149**
Prodigiosin 25-C **1293**
Pumilacidin A, B, C, D, E, F, G **267**
Pyrrolo[2,1-c][1,4]benzodiazepines **1286**
Questiomycin A, *N*-acetyl- 1606
Quinaldopeptin **796**
Rebeccamycin derivatives **125**
Resorthiomycin **129, 135, 138**
Rifampicin 88, 92, 1302
Rifamycin **321**
Rifamycin B **324**
Rimocidin 199
Roridin A **1502**
Rosaramicin 938, 1006
Rosaramicins **1497**
Rubiginone A_1, A_2, B_1, B_2, C_1, C_2 .....**967**
Saintopin **1344**
Salinomycin 441, 668
Sangivamycin 1586
Saquayamycin A, B **830**
Saramycetin **897**
Simaomicin α **1059**
Sisomicin 992
Sorangicin A **88**
Spectinomycin 1349
Spiramycin 199, 977

Staurosporine 163, 168, **1207**
Steffimycin D 1489
Steffimycin D, 2-demethyl- **1489**
Streptothricins 199
Strobilurin A 207, 655
Strobilurin B 655
Strobilurin E **207**
Strobilurin F, G, H **655, 661**
Tautomycetin **890**
Tautomycin **809**
Teicoplanin alkyl derivatives **1107**
Tennecitin 199
Tetracenomycin C **1169**
Tetracenomycin X, A_2, B_3, D_3 1169
Tetracycline 199, 449, 1302, 1601
Tetrahydroeponemycin 8
Thienamycin 847, 1254
epi-Thienamycin B 1441
Thiolutin 199
Tobramycin 199
Tomaymycin **1286**
Topostin **154**
Topostin A1, A2, B **158**
Toyocamycin **1586**
Trapoxin A, B **1524**
Triacsin A, B, C, D **1207**
Trichomycin 1489
Trichomycin A 778, **904**
Trichomycin B **778**
Trichostatin A **1101**
Tubercidin 1586
Tylosin 977
Tylosin derivatives **1131**
Tylosin derivatives, acyl demycinosyl- **1131**
Ubenimex 143
Uridine, 5-formyloxymethyl- **584**
Validamycin A, B, C, D, E, F, G 722, 1039
Validamycin H **1039**
Validoxylamine A **722**, 1039
Validoxylamine B, G 722, 1039
Vancomycin 449, 550, 913, 931
Variapeptin **477**
Verrucarin A, J **1502**
Virginiamycin **692**
Virginiamycin M, S 1601
Xerulin **1413**
Xerulinic acid **1413**
A54145A, A_1, B, B_1, C, D, E, F **587, 594, 601, 607, 616**
A-56268 ..... 1131, 1334
A80915A, B, C, D **623**
A82846A **550**
A83586C 477
AM-8402 ..... **1207**
BE-14348A, B, C, D, E **1533**
BMY-28232 1564
BMY-28271 ..... **1564**
BMY 40660 ..... **107**
BMY 40662 ..... **107**
BO-1236 ..... **1617**
BO-1341 ..... **1617**
BRL 36650 ..... **574**
BU-3619E 1601
C-1027 ..... **417**
CP6162 ..... **1450**
CP-65,207 ..... **422**
CP-70,429 ..... **422**
CP-80,219 ..... **727**
CP-81,054 ..... **422**
CP-84,657 ..... **668**
DC92-B, -D **485**
FAD104 ..... **556**
FCE 21424 ..... **19**
FCE 24366 ..... **19**
FCE 24367 ..... **19**
FK506 1293
FR104007 ..... **29**
FR104008 ..... **29**
FR109615 ..... **1, 513**
FR112123 ..... **449**
FR900403 ..... **1183**
FR-900848 ..... **748**
G418 199
K-2 110
K-252a, -252c 163
K-252a, b **1207**
KS-501, -502 ..... **336**
KT5720 ..... **1207**
KT5822 ..... **1207**
LL-D42067α **1059**
LL-D49194 α_1, β_1, β_2 ..... **253**
LL-F28249α 1321
LY173013 ..... **92**
LY186826 ..... **92**
M-4365 A_1 938
ME1206 ..... **1047**
ME1207 ..... **1047**
ME1221 ..... **1150**
ME1228 ..... **62**
ME1228 analogues **62**
MK 0787 1137
MK4588 ..... **456**
ML-236B 1031
ML-236B derivative **1031**
MM 22382 1137
MM 22383 1137
MM 45289 ..... **550**
MM 46115 ..... **1387**
MM 47761 ..... **931**
MM 49721 ..... **931**
MT0703 ..... **174**
MT0703*R* **189**
MT0703*S* **189**
NKT-01 ..... **213**

PA-46101 A, B 739
PA48009 1421
PS-5 derivatives 1254
RI-331 411
RK-286C 163, 168
RP7071 199
RP9971 199
SB22484 ..... 1349, 1359
Sch 37644 1131
Sch 38646 1131
Sch 43057 897
SF2487 259
SM-7338 ..... 314, 519
SN-198-C 1341
SUN5555 901
TE-031 ..... 295, 544, 1334
TE-032 295
TMC-014, -015, -016 327
U-78608 1199
UCN-01 1207
UK63052 1307
VM 44857 1069
VM 44864 1069
VM 44865 1069
VM 44866 1069
V-T 108 1271
iso-V-T 108 1271
WF-3681 1186
WF-3681 derivatives 1186
WS-1288 A, B 1207
WS1358A1 ..... 29, 38, 281, 344
WS1358A1 derivatives 344
WS1358B1 ..... 29, 38, 281, 344
WS1358B1 derivatives 344
WS-7528 1394
YS-822A 948
02-3D, -3G 110
1233A 397, 1207
6108 A_1, B, C, D 938, 1006
88617 1254